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DIRECTOR

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Editor :
SUTINDER SINGH

MASS MEDIA IN EDUCATION

K. Venkata Reddy*

Over the years, man has developed many techniques to communicate his message to others, but it is only the transmitting technologies underlying the mass media which have made it possible for the written and spoken word, sound and visual images, motion and colour, emanating from a single source to reach an infinitely large number of possible interpreters, simultaneously or near simultaneously.

The power inherent in mass communications – press, film, radio and T.V. is thus evident. Communications controlled by a single source have the capacity to reach out to a large many, at any place, anywhere. The instantaneousness and flexibility of production enable the media to adapt themselves to changing ideas and conditions. The audio-visual media, through the completeness of their presentation, make a profound impact emotionally and intellectually. Above all, their appeal is universal, for everyone can receive their messages, literate and illiterate alike. They have the power to inform, to persuade, to educate and to entertain. Hence the need for and relevance of the mass media in all educational institutions in India, particularly in Indian universities which are committed to the spread of distance education and open learning.

Today, we have many problems – high rate of illiteracy, accelerating population growth which eats into any gains that educational expansion may bring, increasing pressures on admissions at all stages, explosion in knowledge necessitating change and review of curricula and teaching methods, urban-rural imbalance, wastage in education, need for raising standards and the creation of an environment favourable to social change and capable of softening its harsher incidences.

The traditional approach to solve these problems has clearly failed us. We failed, perhaps, because we depended too much on the traditional system and the traditional approach to education to meet an expansion effort in education which did not have anything traditional about it.

The adoption of the resources of modern technology and the mass media can accelerate education at the rate at which we need to have it, thereby enabling us to achieve our social and economic goals. Basically, the mass media have two roles to perform - roles which are complementary and yet essentially distinct. They can reach out to the mass audience through adult education and also serve the specific needs of specific groups through formal education.

The mass media are supremely adapted to adult education. In the context of conditions obtaining in all developing countries, where illiteracy is still to be completely eradicated, where the need for modernization continues to be the primary and urgent one, where access to information is denied or is not possible to people living in dispersed areas, the newer mass media alone are the means of learning what is happening in their countries and in the world.

The educational function of the mass media is certainly the more difficult of the two functions. Learning is a process which takes place within the individual learner while communication through the mass media is aimed at

(Contd. on page 13)

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Need for Library Automation and Modernisation

Harsha Parekh*

What is the need for library automation and modernisation? Why change the established ways of doing things? It has been accepted that innovation, or change in the way of doing things, takes place in two different situations. In the first, an organisation or person recognises that there is a problem and seeks out a way for solving it. Alternatively, a new technique, developed in an entirely different context, triggers off the recognition of a problem which was hitherto latent and the technique is adopted to solve this newly recognised problem.

Both these situations regarding adoption of innovation are true in libraries. Social, economic and retrieval factors have created problems for which solutions are being sought through automation. Changes made in administration and management of other organisations have created in libraries a recognition of similar needs in their own organisations. It is possible to identify five different needs for automating libraries : social,retrieval, economic, administrative and management.

The Social Need

The library is an institution created by society to act as an intermediary between individuals and the store of recorded knowledge. As a first step, it is required to collect recorded knowledge as it exists in a society — whether it be in the form of clay tablets, papyrus rolls, magazines, books, journals, etc. Secondly, this collection is organised and arranged in such a way that the materials are readily available for use. Finally, through its services, the library delivers the information to individuals who need it. The methods of recording information and knowledge, the ways of organising them and information delivery systems have all undergone fundamental changes in the present day.

Since this is so, libraries must adapt to the present time i.e. modernise. Libraries have been attempting to keep pace with the changes in recorded information and it is not unusual to see films, audio discs and cassettes, videos, etc. in the library. More recently, CD-ROMs have made their appearance. They are suited for extensive storage of texts and pictures used for reference. A number of standard library sources such as Oxford English Dictionary, McGraw Hill Encyclopedia of Science and Technology, Ulrich's Periodicals Directory, Books in Print and a large number of directories, indexes and abstracts are available in this format. Experiments in electronic publishing (e.g. ADONIS which brings together core articles in medical sciences) are creating electronic periodicals. Modern libraries will need to include books and journals in electronic format. The work of collecting recorded information in new, modern formats is perhaps the easiest of the changes libraries need to make.

The techniques developed by libraries to organise information viz. cataloguing and classification have served their purpose well. However, in recent times, the boom in specialized information has been of such dimensions that statisticians have given up trying to measure it with any degree of accuracy.

> "The quantitative growth of scientific and technical information, far from slowing down, is accelerating exponentially, i.e. the volume is swelling by about 10% annually, due mainly to the multiplication of disciplines, their increasingly marked specialization and interdisciplinarity" (*Lefort, Rene: Forging links: the exchange of knowledge. Unesco Sources: No. 26, May 1991, p.12*).

Information available about the total number of publications is incomplete. However, a good indication is provided by the increase in the number of titles of scientific and technical journals: from 10,000 in 1900 to 100,000 in 1990.

The growth of documents has far outstripped the capacity of the conventional tools of classification and cataloguing. Libraries need different methods to provide access to documents. Today, computer scientists in a slightly different context, have developed sophisticated techniques of retrieval. The adoption and adaptation of these techniques in libraries can lead to improvements in making the collection more easily accessible.

Libraries have delivered information primarily by requiring individuals to come to the library and consult or borrow materials. It is mainly a self service institution though the value and extent of personalized services

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offered by librarians is not denied. Individuals move themselves and go to the mountains of information. Today, developments in computer and telecommunications enable the movement of information more quickly, easily and cheaply than movement of people. Taking this opportunity, there have developed a number of organizations — such as news services, electronic database providers, electronic brokers, teletext, etc. which seek to provide information. Libraries are now only, one among a number of institutions that provide information content oriented services.

The growth in the number of databanks and electronic information brokers from about 300 in 1980 to more than 4000 in 1990 are an evidence of the change. These services provide factual information (e.g. names, addresses, statistics, etc.), bibliographic references (e.g. indexes and abstracts) and also full text document delivery back up.

In a sense, therefore, they can be seen as alternatives to libraries. An individual instead of moving to the library, may sit at home or office and obtain required information from these competitors to traditional libraries.

All the three basic activities performed by libraries have changed. If libraries desire to adapt themselves to the changed social environment in which they function, they need to fundamentally change the way in which they work.

Computers are altering the flow of information, changing the way old services are performed and creating totally new services. Responding to the changing world of contemporary information access is a social need. Automation is a strategy necessary for adapting to this changing environment and for the very survival of the library as an institution.

The Retrieval Need

The need to automate libraries can be looked at from another point of view viz. the need to improve the retrieval tools of the library. At present through the making of catalogues and the use of classification schemes, access to the stock of recorded information is provided through authors, titles and subjects. With automation of the catalogue, it is possible to increase the access points to a collection without duplication of effort. Thus, in addition to the conventional searches it could be possible to search the catalogue to locate books published by a certain publisher after a particular date. Effort saved in duplicating catalogue entries could be used to make analytic entries to books and journals thus improving access to the existing collection.

Classification schemes and subject heading lists used to provide subject access to library collections have a major limitation in relation to complex subjects. Complex subjects — made up of 2 or more concepts — are represented as a chain of concepts e.g. a topic such as. 'The Use of Audio visual methods in teaching science at secondary schools in Bombay' may be represented by a subject heading or a class number which may be interpreted as:

Secondary schools — Science Teaching — A-V Methods — Bombay

While the string may bring together all materials on the first component i.e. secondary education, materials on the second, third or fourth concept in the string are widely scattered. In such systems, it is very difficult to locate references to say "Science teaching in Bombay" for these would be scattered under different types and levels of education institutions. Searching for a topic such as use of "audio visual methods in Bombay" would be even more difficult for the references would be scattered under different subjects.

This problem can be avoided by the use of computers since each element of a complex subject can be searched. Thus, the system's capability to access documents is considerably enhanced.

By linking a thesaurus to a computerized bibliographic database, searches can be narrowed, widened or modified more easily than in manual systems. Users find it easier to consult automated catalogues than traditional card catalogues. Subject searches by patrons have greatly increased in libraries which have automated their catalogues.

Future developments are likely to enhance even more the retrieval capabilities. Recent research on improving retrieval by providing a more meaningful man-machine dialogue, feedback loops, and relevance ranking is likely to have considerable impact on bibliographic database searching. The development of software such as hypertext which allows a search to be steered to other associative concepts may help in making the retrieval activity at the computer terminal closer to the retrieval process in the human mind.

The challenge of improved retrieval — both in terms of better recall and relevance — created by the overwhelming growth of information and the greater demands for specific information can only be met with the help of the computer.

The Economic Need

Sometime in the 1960s, B.C. Vickery had added a sixth law to Dr. Ranganathan's 5 laws of library science - viz. "No library is an island". This is even more true today. A combination of factors such as growth in the number of publications, and the increase in the specificity of demands makes it frequently very difficult for libraries to provide the right book at the right time to the right reader from within its own collection. A library – however large its collection – is limited in its capacity to deliver documents. To meet this situation libraries have developed union catalogues, resource sharing schemes, inter-library loans etc. Through these means, libraries attempt to extend their collections translocally. Computerized catalogues linked through telecommunications make it possible for readers and librarians to consult catalogues of distant libraries. Requests for interlibrary loans or photocopies can be conveyed almost immediately through electronic mail. When the need is urgent and limited to a few pages, electronic facsimile transfer can be used to deliver the document. This development frees the library from dependence only on its own collection and makes accessible the collections of a number of libraries. This trend towards a library without walls

> "transforms the library into a switching station, where documents may be accessed through some communication system when needed instead of being collected locally". (*Miska, Francis: The future of reference II: a pradigm of academic library organization. College & Research Library News 50 (9) Oct 1989 p.781-790*).

This trend is not a dream or luxury, but a necessity. As a rule in most of the libraries 80% of the demands made on it are satisfied by only 20% of the collection. Sharing of the remaining collection will mean a greater utilization of our resources.

Documents are of course recognized as a resource, but information about documents is also a resource that can be shared. Sharing of information about books and journals between libraries leads to cooperative cataloguing, improved decision making regarding acquisition and saving of staff time and money as has been well illustrated by the performance and response to OCLC and other bibliographic utilities. More productive use of limited resources, can be considered as the economic need to automate.

The Administrative Need

Even if we disregard the wider social, retrieval and economic issues, within the library too there are factors which create the need for automation. Like in other areas of work, within a department of the library, whether it is circulation or acquisition, automation is seen as a solution to heavier workload, particularly to the increase in repetitive technical and clerical effort. The desire for economy in staff time, increase in the timeliness of the services, reduction of backlogs, simplification of procedures, a more speedy and systematic work flow and in general the need for greater efficiency points to automation.

Library activities are particularly suited for automation. While the library needs to monitor and control a large number of books and journals, there are only limited items of information about each document and these are used and reused in many different ways. The title and author of a book, for example, are repeated in the order letter, accession register, the catalogue cards, the shelf list, the book card and, perhaps, the binding record. Automation will enable the multiple use of this information from only one input.

Similarly many library activities consist in sorting and arranging the same information. The accession register, the author, title and subject catalogues and the shelf list all contain, basically, the same information. They are all surrogates of the collection arranged differently. Other outputs such as lists of new additions, charges of books issued, bibliographies, lists of books sent for binding, etc. are all subsets of the same information. Computers are good at using and reusing information, arranging and sorting it in different ways and creating multiple types of outputs from it.

The administrative need for automating the transactions in the library is by itself a strong argument for computerization.

The Management Need

The management of an organization requires a good flow of information between different departments and branches; so also a library. The acquisition department would benefit from information about the books in heavy circulation, while the circulation department would find it useful to know about books being processed.

Information is also required by managers including library managers – for monitoring performance, coordinating activities and strategic planning. Information about performance of book suppliers, about interlibrary lending patterns, and about circulation behaviour of different groups of readers could be used to improve the management of the library. The need for a management information system for managers of library and information centres can be met with the automation of the regular activities.

Conclusion

In the ultimate analysis, there are only two possible justifications of automation: either it reduces the costs of doing something or it allows one to perform new and additional activities which were otherwise not possible. Library automation is justified on both these counts.

Each of the five needs discussed is independently a strong argument for automating libraries. Combined together, the need for libraries to automate seems indisputable. If we desire to provide relevant and useful services at a reasonable cost, automation seems to be inevitable.

Physical Education and Sports Programmes in Colleges and Universities in India

Sundaram Srivatsan*

Introduction

Since independence volumes have been written, and perhaps more spoken, on the reform of education in India and how to get over the evils of colonial system of education left behind by the British Government. Many commissions at different levels of education had suggested as to how the educational activities are to be planned, promoted,organised and conducted at school, college, university and other institutions of higher learning. It would not be out of place to mention a few of these commissions since 1947 : Dr. S. Radhakrishnan Commission on University Education –1948; Dr. A. L. Mudaliar Commission on Secondary Education –1952. Dr. D. S. Kothari Commission on Education at different levels in India (1964-66); Dr.C.D.Deshmukh Committee on Physical Education and Sports in Colleges and Universities in India (1965-67); New Education Policy for Education in India in 21st Century (Govt. of India 1985-86); and National Sports Policy –Govt. of India(1985).

All these documents have stressed the importance of change in the system of education including physical education and sports in the country keeping in view the following important considerations:

(1) A critical analysis of the past to understand the mechanics of development and to identify the failures and achievements of a system in relation to defined goals and objectives, and

(2) To analyse the general 'psyche' of the people responsible for the development and promotion of education in general and physical education and sports in particular.

The greatest social reformer of modern India Swami Vivekananda gave a clarion call to the youth of India when he said in early 20th century, "Come out of your narrow holes and have a look around, see how nations are on the march".

Education is the most powerful instrument for effecting changes in human society. It is a comprehensive term that includes physical education and sports education as well to bring about 'total personality development'. The present education system irrespective of any country and the rapid advancement of science together with sophistication of technology, has ushered in a 'dangerous situation' in the world. In the first quarter of 20th Century H.G. Wells cautioned the whole world when he remarked, "Human history becomes more and more, a race between education and catastrophe" Today we are perhaps advancing towards that catastrophe and unless something is done to revolutionalise world educational system to reverse this trend which is not an easy task unless world public opinion unites to do so. Here it is worthwhile to state what Senator J. William Fulbright remarked about education, "Education is a slow moving but a powerful force. It may not be fast enough or strong enough to save us from catastrophe, but it is the only strongest force available". Accordingly it is for us to make our education 'fast and strong' to help us to avoid catastrophe and save mankind from total destruction. Let our new education policy as adopted by the 'Parliament' and state legislatures secure the future of Indian education, provide the base for 'unity of man' and the concept of 'one world' or the 'world is a family' (Vasudaiva Kutumbakam'- Bhagwad Geeta).

Man (both the human species male and female) is the centre of all development. One of the roles of education and training is to develop human resources for socio-economic and cultural development. Physical education and sports are as old as mankind. As a process of total education of an individual 'physical education' (which includes Sports as well) is an important area where, "more than education of the physical, it is education through the physical" that is attempted in schools, colleges and universities. While deciding the educational component at various levels (Pre-Primary, Primary, Elementary, High/Higher Secondary, College/University etc.), it is necessary to keep in mind the following important factors:

(1) Education is 'holistic in nature' - and therefore, should touch every aspect of the total personality (physical, mental, emotional, social and moral).

(2) The contents/programmes should be relevant to the life pattern in the 21st century society, of course based on past and present practices.

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(3) Twenty-first century is going to lay more stress on 'physical fitness' potential in every human being and therefore, the contents of educational programmes at 'tertiary' level (colleges, universities etc.) will lay more emphasis on physical education and sports which are basic to gain 'top level physical fitness', so essential in any walk of life.

(4) As the educational environment is changing towards group activities involving scientists, historians, technologists, engineers, doctors, physical educationists, sports coaches etc., it is necessary to have inter-disciplinary approach in modernising curriculum at different aspects of education – physical education and sports are no exception to this.

One of the most neglected and scarcely respected areas in our education is physical education and training in competitive Sport. In most of the educational institutions physical education and sports training is only on paper and if at all some programme is there it is only an apology for total physical education and sports coaching. Swami Vivekananda who understood human resource development in early 20th century rightly remarked:

"Our men must be strong, religion will come afterwards. Be strong, my young friends, you will be nearer to heaven through Football than through study of Gita. You will understand Gita better with your Biceps, your muscles a little stronger".

In fact, participation in physical education and sports/games activities should be made compulsory from the beginning of school education to the stage where an individual is to leave college/university after graduation/postgraduation. Hence the importance of physical education and sports at college and university level for men and women students.

Physical Education and Sports at College and University Level

Modern India is preparing itself to enter into twenty-first century through its "New Education Policy" wherein emphasis is laid on physical education and sports for the vast majority of the 'Youth of the Nation'. (The International year of youth 1986 as adopted by U.N.O. had described youth as those who fall between 15 years and 35 years of age). Accordingly in schools and colleges/universities physical education and sports programmes are implemented with the sole purpose of assisting the youth to:

(a) Develop organic fitness (health and physical fitness).

(b) Develop neuro-muscular skills (Ability to play and participate in games/sports).

(c) Develop the potential for outstanding performance in games and sports (Superior performance in sports/games).

(d) Develop leadership qualities to shoulder onerous future responsibilities (Future leaders).

(e) Develop an integrated personality with exemplary moral and ethical character (Total personality).

The foundation for physical education and sports is laid in the elementary, primary, secondary and higher secondary levels and this should create a greater demand for participation in programmes of physical education and sports at the colleges and universities in India. With increasing maturity and self responsibility of students alongwith their diverse interests in concerned academic pursuits, the programmes in physical education and sports should reflect more of guidance and 'wider choice' of games, sports and physical fitness and recreational activities' instead of a very 'rigid pattern' of compulsory 'games and sports'. Barring a few colleges/universities in India, there are no effective programmes in physical education and sports at present at the colleges/universities. It is necessary to make physical education and sports as a permanent feature and as a part of 'academic activity' involving a 'year round programme'.

SUGGESTIONS FOR THE CONTENT AND IMPLEMENTATION OF PHYSICAL EDUCATION AND SPORTS PROGRAMMES IN COLLEGES AND UNIVERSITIES IN INDIA

(a) Aims

The college/university programmes in physical education and sports should aim to develop in the students an optimum level of physical fitness, games and sports skills, knowledge, attitude, understanding and appreciation through the medium of well planned, adequately taught and supervised programmes of physical activities. These may not only serve the purpose of "participation in competitive sports" but also cater to "life time interests" for participation in 'recreational activities' so essential as 'carry over activities' in later years in one's life.

In line with the above aim of physical education and sports in colleges/universities, it is necessary to gear activities in sports and games to focus on the following objectives among college/university youth:

1. *Health Objective:*

Physical – Medical examination of all students at regular intervals and follow up to determine the type of physical activities suitable for students.

2. *Physical Fitness and Skills Objective:*

To promote and develop physical fitness components so essential for day to day tasks among youth and also as a solid base for "excellence of performance" in competitive games and sports at the university, state, national and international levels.

3. *Personal and Social Objective:*

To develop desirable personal and social traits and characteristics required for democratic living.

4. *Recreational Objective:*

To inculcate wholesome attitudes towards games and sports and to engage in them voluntarily throughout one's life.

(b) Organisation and Administration

Leadership:

In order to achieve the aims and objectives trained leadership (physical education and sports personnel) in adequate number should be provided and a Department of Physical Education and Sports Sciences established. Teaching, non-teaching and administrative staff should be provided as per norms in colleges/universities. The qualifications (Academic etc.), designation, status, salary scales and promotional avenues should be the same as in other academic disciplines in colleges/universities.

(c) Curriculum

1. *Theory Subjects:*

Physical education and sports curriculum is to be introduced as an elective course in the Three Year Degree Courses in the Arts/Science Faculties. As per the UGC directions a 3 year Bachelor's degree course (B.Sc in Phy. Edn. and Sports) in physical education and sports may be introduced in colleges/university departments.

2. *Practical Activities:*

Graded and suitably established activities for different classes, sex and student groups (undergraduates, postgraduates and others) should be introduced as a part of physical education and sports curriculum. These activities may be under the following groups :—

a. Team Games/Sports.

b. Individual Sports.

c. Gymnastics (educational, fundamental and olympic style).

d. Aquatics (Swimming - Diving - Water Polo etc.)

e. Athletics (Track and Field Sports)

f. Wrestling - Boxing - Judo.

g. Best Physique, Weight Lifting, Malkhamb.

h. Cycling, Rowing, Rifle Shooting.

i. Outdoor Sports (open country sports)— Trekking, Hiking, Rock Climbing, Mountaineering, Hang Gliding, Parachute, Jumping, Camping etc.

j. Yoga (Asanas, Pranayam, Kriyas etc.).

k. Special activities for handicapped students (Remedial and adapted physical education and sports activities).

Period Allotment and Evaluation:

As per norms for other subjects in other disciplines adequate number of periods are to be provided for practical activities and theory subjects for each class. Students are to be assessed periodically as per evaluation/examination pattern followed.

Intramural Sports and Games Programme:

A well organised programme of 'intramural competitions' on an inter class/Inter-department basis will provide opportunities to greater number of students to participate in games and sports and enjoy the thrills of competition.

Inter College/Inter University and Special Coaching Programme for Potential and Talented Sportsmen/Sportswomen

(a) There should be a 'strong and challenging' inter-college sports and games (University level) competitions and also inter-university sports and games tournaments/competitions planned and conducted year round on the basis of the 'Sports Calendar' of the Association of Indian Universities.

(b) Special coaching programmes for talented sportsmen/sportswomen are to be organised at college/university level on an year round basis under the expert guidance of sports coaches.

(c) Incentives and Awards to Outstanding Sportsmen and Sportswomen : Scholarships, cash awards, diet allowance, kit allowance, freeships, special concessions, certificates, colours, blazers/track suits, relaxation in admission criteria to courses of studies, special financial assistance/grants etc. are to be granted to outstanding sportsmen/sportswomen in the colleges/universities. Such an effort will provide a 'strong motivational base' to college/university students to put in their best in sports and games.

Conclusions

On the basis of committee reports (Expert Committees) appointed by UGC/SNIPES and other central and state govt. agencies, the following points are worth deliberation and implementation in regard to physical education and sports activities in colleges and universities.

1. All Students atleast at Undergraduate level should be exposed to a 'required programme' of physical education and sports in colleges/universities.
2. A strong intramural competition on year round basis should be organised in colleges/universities.
3. Inter Collegiate/Inter University competitions for skilled students should be organised and conducted.
4. Physical Education as an elective subject is to be introduced in all colleges/universities.
5. An Undergraduate course (Three Year Degree) as envisaged by UGC for a Bachelor's Degree Course in Physical Education and Sports (B.Sc P.E. and Sports) is to be introduced in colleges where facilities are available for physical education and sports.
6. A Department of Physical Education & Sports Sciences may be established for Physical Education & Sports 'Academic Work' and a separate 'Sports Department' to look after 'Competitive Sports' is also to be started.
7. Adequate provision of 'financial assistance' should be provided for Physical Education and Sports at par with other disciplines/subjects in the college/university.
8. Teaching, coaching and other administrative staff on the same pattern as recommended by UGC and other competent bodies, should be provided for Physical Education and Sports Department in colleges/universities.
9. A truly effective programme of physical education and sports in colleges/universities has to meet four important conditions:
    - (a) Should bring the entire student population in colleges/universities in its fold.
    - (b) Organised on a permanent footing as an integral part of education.
    - (c) Should be made compulsory in colleges/universities, but students must have choice of practical activities, physical fitness workouts, coaching services etc.
    - (d) Should be under the overall guidance and supervision of qualified personnel as per UGC norms.

In sum it is to be emphasised that physical education and sports are an integral part of total education which contributes to the development of the individual through the natural medium of physical activity — human movement. Physical education and sports activity experiences in colleges/universities are carefully planned sequence of learning experience designed to fulfil the growth, development and behaviour needs of each individual to assist him/her to :

(1) Develop proficiency in games and sports,

(2) Express proper social behaviour,

(3) Condition vital organs of the body,

(4) Control over emotions,

(5) Develop interpersonal relationship, and

(6) Sustain interest in life time recreational activities.

Accordingly physical education and sports activities in colleges and universities present a 'kalediosсopic effect'. They exhibit an infinite variety of 'human emotions', 'outstanding Physical feats', 'triumphs', 'defeats' and 'fantastic exploits' which are the parameters of 'excellence of performance' in sports and games. Therefore, there is urgent need to emphasise physical education and sports as an area of 'academic effort' in colleges and universities.

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STUDENT ACTIVISM
A Bibliographical Essay

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Every society contains in it a diversity of thought and behaviours and at the same time the process of equilibrium or stability maintains the balance among them. One of the factors of disruptive social equilibrium is deviant behaviour. Deviant behaviour is one that is not in conformity with the accepted pattern of society. Some researchers find this deviant behaviour as dysfunctional while others as a process of social change.

This deviant behaviour, unrest, or agitation is generally termed as student activism, and mainly branded as the non-conformist, and rebellious nature of an individual or a group of individuals. These characteristics form a specific identity of persons amongst the general population of students who are always seen involved actively in various protests, agitations, movements and such like activities.

"Student activism refers to the political activities of students in post secondary education. Activism can take many forms from militant demonstration or even terrorism and violence to participation in established political parties and organizations. It may be independent of or in relation with broader political movements or it can be a part of established parties. Activism may be concerned with societal politics or with internal university matters. Activism is often motivated by range of factors, from political and/or religious or other ideologies to specific conditions within educational institutions or societies. There are considerable variations in the nature, scope, style and effectiveness of activism from country to country" (*International Encyclopedia of Education*, 1985). Altbach (1967) has defined a student movement "as an association of students, inspired by aims set forth in a specific ideological doctrine, usually not exclusively political in nature". This definition is ideologically oriented whereas very few cases are really ideologically oriented all others are occasionally stimulated, politically motivated and ideologically devoid. Thus we consider student activism for those extra-curricular activities of students in social situations that are not permitted in our social set up and are disapproved by education system too. It refers to student participation in those activities which are considered to be anti-social, anti-academic and deviant behaviour both on campuses and off campuses, which have political and social implications – organised demonstrations, strikes, sit-ins, boycots, walk outs, assaults, and destruction of public and private property – all comprise student activism.

Some educationists relate activism with revolutions which bring change in an individual and society. According to them, it is functional, and if properly focused, it becomes a source of change and progress in society. Youth unrest is considered as inevitable precondition for human progress.

Vozic and Rossman(1969) analysed that "It is the only tone of voice, on every campus, where students are into the beginning of every next culture.

Some researchers view activism as a student imbalance in the normal functioning of accepted societal norms and their own thoughts of proclamation of defiance. Some refer to it as acts only in social situations which means that individual activities of students alone do not make for student activism. They relate student activism with a group or togetherness in situations.

A few remarkable researches have been conducted in the field of student activism in order to identify and investigate the cause responsible for student activism. Student activism however has been analysed by various scholars keeping in view their perspectives of studies. The present study deals with an effort to review the researches as advanced in the area of student activism correlated with various characteristics.

Researches Related to General Factors

A survey conducted by World Brotherhood All India Committee (1960) concluded that too much lesiure time, political participation, sex problems, poor student-teacher relationship, anxiety are amongst the causes responsible for student activism.

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Wilson (1966) in an experiment on student activism derived that peer group plays a dominant role in giving rise to agitational and disruptive activities, because of strong feelings of unionism and fellow feeling.

Wallace (1967) in his study "Faculty, Fraternity Achievement" observed that activist students exercise mutual influence on each other, based on a set of shared expectations and important aspects of common environment.

Mishra (1967) while dealing with the problem of Indian youth stated that employment problem produces a sense of disillusionment and protest among some students and the reactions get articulated through student demonstrations, strikes, and union activities.

Amar Kumar (1968) rightly observed that teacher-taught relationship in changing scenario because of political equation rather than academic and spiritual bond, introduces disturbances in the academic culture.

Altbach (1967) explained student activism on the basis of ideological orientation. He expressed that "student-movement is an association of students inspired by aims set forth in a specific ideological doctrine, usually although not exclusively political in nature".

Gupta (1969) in a study of 'Student activism' found that student activism attacked the educational system mainly on two grounds i.e. (i) on the authoritative character, and (ii) irrelavant curriculum.

Abraham (1969) in his study of "students participation in university affairs" concluded that the vast expansion of education without adequate increase in the facilities was the major cause of student agitations.

Mehta (1971) in a study on "Some perceived needs and problems of university youth" referred to the rising cost of education and life, frustration among the educated unemployed youth, lack of good teacher taught relations, and many other factors as responsible for student agitations.

Gehlot (1971) in his study of "Jodhpur University Unrest" described as to how youth power in country indulged in violent activities without understanding the consequences.

Vidyarathi (1972) while analysing student unrest in Chhota Nagpur during 1969-70 concluded that ineffectiveness of college/university authorities, non-academic cooperation of teachers and students and many other forces caused the unrest.

Majumdar, T. (1974) in a "study of academic leadership and student unrest," tried to find out the causes of student unrest in the colleges and departments of University of Delhi in 1972-73. He observed that:

(a) About of 56% teachers did not spend adequate time on preparation for teaching.

(b) Their attitude towards students was indifferent and negative.

(c) The existing academic programme failed to satisfy students' psychological needs at three levels i.e. (1) cognitive (2) conative, and (3) affective, and helped in fomenting student unrest.

(d) The organizational climate affected student unrest.

(e) Nearly 50.93% of students listed economic insecurity as one of the important factors of student frustration.

(f) Student agitation represented complex, multidimensional and dynamic social behaviour of students.

Upadhya, A.R. (1975) in his study "Student Unrest – A study of a degree college of Eastern Uttar Pradesh," tried to investigate the intensity of student unrest and suggested some remedial measures. Some of findings are:

(a) Inadequate teacher taught contact,

(b) Defective method of teaching,

(c) Recognition being given to indisciplined students rather than serious and studious students, and

(d) Secret association of teachers with students for the sake of personal gains and selfish motives etc.

Shah, R.S.(1979) in his study "College life perspective" tried to find out some major trends and issues of higher education – mainly perception of academic life and student unrest. Some of the findings were :

(a) The students show their maximum dissatisfaction towards student welfare service, curriculum, examination, discipline and interpersonal relationship, and

(b) Organizational climate of the college was significantly related to the principals, teachers and students perception of the cause and remedial measures of students unrest.

Bajaj, K.K.(1989) in an article "62nd Constitutional Amendment and student activism" sums up that lack of infrastructure facilities and sufficient job opportunities have contributed to the cult of agitation on campuses in the past, while selective admission, illusory examination system, lack of adaptability to the challenge of social change, has aggravated the crisis. In the post independent India, a dynamic step has been taken to initiate young students of 18–21 years of age into the task of social reconstruction and government. The measure may invite political parties to the campuses but it will result in a free and democratic debate on their roles and programmes for social improvement and change.

Ghanchi, D.A. (1989) in an article" Conflict in Higher Education: The Indian Scenario," has explained all those possible forces which have contributed in aggravating the conflict in higher education as:

(a) Historical legacy,

(b) Cultural confusion,

(c) Demographic pressures,

(d) Political contamination,

(e) Economic compulsions,

(f) Educational aberrations, and

(g) Managerial inadequacy.

Studies Related to Activism and Psycho-Social Variables

A considerable amount of research deals with the characteristics of psycho-social variables of student activism. Psychologists and other scholars have also tried to investigate the relationship of student activism with some psychological variables such as personality traits, aspirations, values, intelligence, adjustment and sociological factors such as college, community, family climate, adjustment etc. From the researches conducted on this field, it has been observed that besides general factors, these psycho-social factors are no less important and have considerably affected the intensity of student activism as a personality and as a group dynamics. The following studies substantiate the fact that student activism is related to psycho-social aspects of life.

Carter (1950) indicated that emergent leaders tended to be more aggressive, forceful, and dominating in their behaviour than the appointed leaders under comparable conditions.

Roy and Bord (1964) found that " the adjustive failure of postgraduate students in home and educational sphere indicated greater aggressiveness in attitude. Confirmation of findings was obtained by Sarkar that certain drawbacks in socio-economic conditions, academic and administrative field contributed to the growth of general dissatisfaction among the students."

Heist (1965) exploring some personality traits of activists observed that activists were bright than non-activist peers, more successful academically, more flexible, more individualistic and more autonomous.

Austin, Panos and Creager (1966) reflected the traits of social awareness and involvement of activists as the following – "The activists were involved in more activities, they were more aggressive, and involved in a variety of ways. They were significantly more likely to perceive themselves as being characterised by leadership ability, speaking ability, social self confidence, and intellectual self confidence". Similar inferences were drawn by Bhalla(1970) summarizing that indisciplined students described themselves as violent and aggressive and some of them displayed antisocial and negative self.

Sarkar (1970) expressing his views on student unrest inferred that "socio-economic, academic and administrative fields contributed to the growth of general dissatisfaction among students."

Srichandra (1971) in an attempt at psycho-social study of tension in college going youth found that psycho social factors, accounted for the growing unrest, tension and frustration among the youth of the country. The study further revealed that lack of communication between teacher and student, undue advantages by political parties and frequent interference in campuses by government has helped in generating unrest at the campuses.

Reddy (1974) conducted a study on "Few socio-psychological correlates of student activism" and observed the relationship of student activism to SES, at personal level, alienation, value pattern and academic training of students. The study revealed that (a) SES has positive relationship with student activism, and (b) Tension was higher among students from low and middle income groups and the students living in urban background than those belonging to rural vicinity.

Aswal (1982) in a study "Relationship of student activism and personality adjustment" attempted to examine the relationship of student activism to their personality adjustment. The result of study showed that there was a significant relationship between student activism and personality adjustment (home and emotional) and educational dimensions have positive relationship with activism.

Singh, B. in his study of "personality traits of student leaders and non-leaders of selected Indian universities and their expressed opinion towards leadership traits," concluded that student leaders in comparison to non-leaders were more warm, sociable, emotionally mature, stable and having dominant stronger characters or super ego strength, although both groups have shown similar general mental ability.

Studies Related to Socio-Economic Status

Many studies have proved that student activism has close relationship with socio-economic condition of an individual or a family. A good number of studies were carried on by the researchers in terms of socio-economic status. Psychologists have sought to account for degree of student activism by examining such factors as variation in the way different groups of students were reared by their parents in family relationship, authoritation or democratic atmosphere etc. Their studies have reported interesting and relatively consistent differences between the minority of student activists and the rest of the student population.

Somers (1965) who conducted a survey on "Main springs of rebellion" on the students of Berkely, observed that militants belonged to upper middle class or families of higher income groups on an average than the non-militants. Those who disagreed with their parents were more likely to have rebelled on campus life.

Lipset (1967) reported that "Leftist activists tend to be the offsprings of the permissive families as judged by a strong mother who dominates family life and decision. Conversely conservative activists tend to come from families with more strict relationship between the parents and the children in which father plays a dominating controlling role".

Flacks (1967) in the study "The liberated generation — An exploration of the roles of student protest" reported that student groups of high activist tendencies were predominantly in upper middle class.

Sharma (1971) followed the findings of Flacks and reported that activists came predominantly from high socio-economic strata, after conducting investigation on "Socio-background and outlook of students."

Singhal (1973) revealed that a large percentage of student activists had father's with business and professional background (44.99) and accepted political background (57.45) than the students in general.

Aikara, J. (1974) in his study "Ideological orientation of student activism" has presented certain valuable inferences :

(i) Politics do have significant relationship with student activism,

(ii) All activists do not have ideological orientation, and

(iii) Student activism is deeply correlated with sex, age, years spent in college, rural-urban background, place of study, faculty of study, type of family etc.

Mishra (1973) in an attempt at "identification of plan, programmes and future aspirations of student leaders" analysed their awareness of the problems of students community, their motivational and personality factors in fighting students election and their consciousness as how they could improve the present situation. The findings were that academic achievement of high activists was greater than that of low activists. High and low groups differed significantly in their identification with political parties and in their views regarding students participation in parties.

Sharma (1983) in a "Comparative study of psycho-social characteristics of activist and alienated students of graduate level" attempted to investigate the relationship between activists and alienated students on needs, values, educational aspirations and socio-economic studies, need for autonomy, affiliation, achievement and endurance. The value pattern and educational aspirations, have shown insignificant differences between them.

Conclusions

(1) Student activism acts as a major stimuli in bringing disorders at the campuses.

(2) No one factor can be declared responsible for student unrest. Even a single insignificant factor might create havoc and turmoil in campuses.

(3) It is a reflection of various psycho-social and economic factors.

(4) In a majority of cases it is identified as closely related with high and average socio-economic strata.

(5) Some studies reveal that student activism is actively related with political and professional activities.

(6) In term of personality traits, the activists were identified as more aggressive, dominant, exhibited, autonomous, and affiliated whereas non activists show deference, abasement and endurance as some personality traits.

(7) Activists come predominantly from humanities than from natural sciences.

(8) Student activism specially in India did not show any set ideological orientation. It has been a reflection of spontaneous occurences.

(9) Student activism is in almost all cases a minority phenomenon, only a small proportion of student population is found involved in activistic actions.

(10) Students activist movements are seen to be basically national in nature and orientation.

These research findings remarkably expose multidimensional features of student activism.

Apart from the above researches, Rosenmayr (1969) in a study "Towards an overview of youth sociology" Bhatt (1970) in an attempt at "Camparative study of self concept of indisciplined and disciplined students", Ganguly (1967) Kerpelmn (1972), Dempsey (1970), Reddy (1972), Sampson (1967), Braungart (1966) and many other investigators have presented valuable findings concerning student activism.

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Mass Media in Education

(Contd. from page 1)

a specific segment of a general audience which, in turn, comprises individuals who have varying capacities to perceive, to listen and to comprehend. Neither the mass media nor recent innovations in educational technology have solved elsewhere all the problems of education, but they can, when used with intelligence, discrimination and proper appreciation of their specific nature, help to serve the ends of education in a manner in which the traditional methods can never do.

The application of technology demands an inquiry into both the present system of education and of media. We have yet to discover fully what can be done best by each medium, singly or in combination of two or more. Far reaching changes will have to be introduced in the objectives of education, the curricula and teaching methods. Greater demands will be made on the users of educational technology as well as on the makers of the software of technology-based media. The experience of other countries who have used media successfully for educational ends will have to be examined in the full context of the total requirements found necessary for the experiments. The use of mass media and technology for instructional purposes is still very much in the experimental stage. What was said two decades ago in the context of the situation obtaining in the U.S.A. is valid for us today — "Educational possibilities of the media of mass communication have only been scratched. They will be discovered and used only when tens of millions of persons turn their attention to the job, bringing to bear the richness of their varied concerns, desires, skills and relationships."

CAMPUS NEWS

MEDLINE on CD ROM

The British Council Division, Madras runs a CD Scan service for MEDLINE. As is well-known CD ROM (Compact Disc Read Only Memory) is a recent addition to the panoply of publishing media and a predominant form of read only optical disc. Each single sided disc of 120 mm can store upto 680,000,000 characters (680 Mb), equivalent to 1,500 floppy discs, or 250,000 sheets of A4 pages of text. The storage capacity, combined with the searching power and flexibility of modern personal computers means that searches, previously capable through on-line only, can now be undertaken off-line simply and economically.

MEDLINE is a major source of information for biomedical literature containing citations and abstracts and is an important research tool for health professionals. It is international in scope and covers more than 3,200 journals published all over the world with approximately 75% of the citations published in the English language. MEDLINE is the computerised counterpart of the Index Medicus plus Index to Dental Literature and International Nursing Index. It is updated every month and cumulated annually.

The coverage is extensive — it includes medicine, surgery and a wide range of related topics such as: microbiology, pharmacology, environmental health, nutrition, delivery of health care.

The categories covered include: anatomy, organisms, diseases, chemicals and drugs, techniques and equipment, psychiatry and psychology, biological sciences, physical sciences, social sciences and education, technology, agriculture, food, industry, humanities, information science and communication and health care.

MEDLINE is noted for its extensive thesaurus, MeSH (Medical Subject Headings), which provides a controlled vocabulary and subject arrangement according to categories by the descriptors.

With the help of this database, searches can be carried out against specific requests and print-outs provided at a nominal cost.

Further details can be had from British Council Library, 737 Anna Salai, Madras 600 002.

Book on Univ Finances Released

Prof. G. Ram Reddy, Chairman, University Grants Commission, recently released the book "Financial Management of Higher Education in India" written by Dr. (Mrs) M. Sulochana, Reader in Commerce, Osmania University, at a function organised by Institute of Education, Culture and Development, Hyderabad.

Speaking on the occasion Prof. G. Ram Reddy applauded Dr. Sulochana for the novel and innovative work. He said that her book is timely, relevant and useful in the present day context.

Prof. Vanaja Iyengar, Vice-Chancellor of Osmania University, in her presidential address, emphasized the need for mobilization of additional resources by the universities and commended Dr. Sulochana for recommending certain viable solutions to relieve the universities of the financial crunch. She added that jettisoning traditional courses in favour of modern courses in the universities, suggested in the book, would be a bold step. Instead of this, charging user-fees for all courses would be a positive approach, she opined while referring to privatisation of higher education as a remedy to the present crisis.

Prof. T. Navaneeth Rao, former Vice-Chancellor of Osmania University, speaking on the occasion, referred to various recommendations made by Dr. Sulochana, which were designed to wriggle universities out of financial constraints. He said the work was authentic, clear, relevant, useful, & excellent.

Prof. K. Ramakrishna Sarma, Head, Department of Commerce said that the book was a mini encyclopaedia on University finances and that it will prove to be a Handbook for all concerned with higher education.

M Phil in Communication & Journalism

Osmania University plans to introduce a research-based M.Phil Course in Communication & Journalism from February, 1992.

Candidates who have a Master's Degree in Communication & Journalism with 50% marks are eligible for M.Phil course, admissions to which will be based upon an entrance examination. The university has been enabled to start the course with the UGC Special Assistance programme status accorded to the Department of Communication & Journalism.

Oratorical Contest

As part of its literary activities the Dean, Student's Welfare of the University of Kashmir organised an "Oratorical Contest" for the university students and its affiliated colleges on 10th December, 1991. The function was presided over by well known poet, writer and critic Mr. Safi Sopori. About twelve students from various teaching departments participated in the contest. The topic of contest was "Mohisin-I-Insaniyat". The speakers highlighted the various facets of life and work of Prophet. This included his social, religious and moral teachings.

Gulam Hassan Gamgeen, Department of Media Education, Mukhtar Bin Sidiq, Deptt. of Arabic, and Hafiz Abdul Hamid, Islamia Oriental College were awarded Ist, 2nd and 3rd prize respectively.

Urdu Courses at Open Varsity

Dr. B.R. Ambedkar Open University will offer courses in Urdu from the next academic year. This was stated by Mr. Jaleel Pasha, Chairman of the Urdu Academy recently.

Scholarships for Farmers' Children

The Uttar Pradesh State Mandi Parishad will award scholarships of Rs. 300 to Rs. 500 for higher education to meritorious children of poor farmers from the next academic session. This was announced by the president of the parishad Dr. Shyam Sunder Dwivedi in Lucknow recently.

ISM Convocation

The 14th Convocation of Indian School of Mines, Dhanbad will be held on Saturday, the Ist February, 1992. Prof. C. S. Jha, Vice-Chancellor, Banaras Hindu University has kindly consented to deliver the convocation address.

News from UGC

Countrywide Classroom Programme

Between 6th January to 11th January, 1992 the following schedule of telecast on higher education through INSAT-1D under the auspices of the University Grants Commission will be observed. The programme is presented in two sets of one hour duration each every day from 1.00 p.m. to 2.00 p.m. and 4.00 p.m. to 5.00 p.m. The programme is available on the TV Network throughout the country.

Ist Transmission

1.00 p.m. to 2.00 p.m.

6.1.92

"Remote Sensing-XVIII: Ground Water"

"Management-I: What is Management?"

"Your Vision"

7.1.92

"Ways of Thinking-VIII : The maps that the mind creates."

"Volumes of Reacting gases"

8.1.92

"GIST-Technology for People"

"Meet an Architect"

"Alcohol from Cassava"

9.1.92

"Nutritional Blindness"

"Celebration of Spring-I"

"All my sons: Critical Appreciations-I"

10.1.92

"Parabola; Lecture By Prof.V. Kannan"

"Secularism"

"Education through Art: Isa Vasya"

11.1.92

"Underwater Photography"

"World University Service: Education for all"

"Week Ahead"

IInd Transmission

4.00 p.m. to 5.00 p.m.

6.1.92

"Remote Sensing-XIV : Image Processing and Data Products"

"Devaluation of Rupee"

7.1.92

"Ways of Thinking-II: Contours of Time"

"Organic Techniques-II"

"The Scanner"

8.1.92

"Sieve Analysis"

"Tumba-Plant with future prospects"

"Fungus"

9.1.92

"Programming in PASCAL Language-II"

"Glimpses of Girasia Life-II"

"Byron, Byron, Byron-I"

10.1.92

"Vedic Mathematics-V : Divisions by Dhavjanka Sutra"

"For others too"

"Effects of Noise Pollution on Health"

11.1.92

"Rabindra Sangeet-II"

"Handicrafts of Andhra Pradesh : Art of Bidri Ware"

"Weekly Programme"

Minimum Qualifications for Teachers

In pursuance of the revision of scales of pay of University and College teachers as Notified by the Government of India, Ministry of Human Resource Development, Department of Education, vide letter No. F.1-21/1987-U.I. dated 22nd July, 1988, the University Grants Commission had under its consideration the revision of minimum qualifications required for recruitment of teachers (Lecturers, Readers and Professors) in subjects other than Fine Arts, Management, Engineering and Technology in Universities and Colleges. These qualifications have since been finalised and approved by the Commission in consultation with the Ministry of Human Resource Development, Department of Education, New Delhi and are circulated vide Commission's letter No. F.1-11/87 (CPP) dated 28th October 1991.

The Regulations framed by the Commission for qualifications required of a person to be appointed to the teaching staff of a University and Institution(s) affiliated to it and contained in Commission's circular letter No. F1-11/87(CPP) dated 19th September, 1991 have been Notified in the Gazette of India on 5th October, 1991. These shall apply to every University established or incorporated by or under a Central Act, Provincial Act or a State Act, every institution including a constituent or an affiliated college recognised by the Commission, in consultation with the University concerned under Clause (f) of Section 2 of the University Grants Commission Act, 1956 and every institutions deemed to be a University under Section 3 of the said act.

The revised qualifications take effect from **19.9.1991**.

Minimum Qualifications for the posts of Professors, Readers and Lecturers in Subjects other than Fine Arts, Management, Engineering and Technology in Universities & Colleges for appointment of persons through open advertisement and for promotion of persons as Reader and placement in Selection Grade Lecturer and Senior Scale Lecturer.

(1) Professor

An eminent scholar with published work of high quality actively engaged in research with 10 years of experience in postgraduate teaching and/or research at the University/National Level Institutions, including experience or guiding research at doctoral level.

OR

An outstanding scholar with established reputation who has made significant contribution to knowledge.

2(A) Reader *(Open Selection)*

Good academic record with a doctoral degree or equivalent published work. Candidates from outside the university system in addition shall also possess atleast 55% marks or an equivalent grade at the Master's degree level.

Eight years experience of teaching and/or research including upto 3 years for research degrees and has made some mark in the areas of scholarship as evidenced by quality of publications, contribution to educational renovation, design of new courses and curricula.

2(B) Reader *(Promotion)*

(a) As regards the promotion to the post of Reader in accordance with the scheme of revision of pay scales of teachers in universities and colleges notified by the Government of India vide Notification No. F. 1-21/87-U.I. dated the 22nd July, 1988, the guidelines are circulated by the University Grants Commission vide its letter No. F.1-6/90(PS Cell) dated the 29th January, 1990.

(b) Every Lecturer in the Senior Scale will be eligible for promotion to the post of Reader if he/she has :

(i) completed 8 years of service in the Senior Scale, provided that the requirement of 8 years will be relaxed if the total service of the lecturer is not less than 16 years;

(ii) obtained a Ph.D. degree or an equivalent published work;

(iii) made some mark in the areas of Scholarship and research as evidenced by self-assessment, reports of referees, quality of publications, contribution to educational renovation, design of new courses and curricula.

(iv) participated in two refresher courses/summer institutes of approved duration, or engaged in other appropriate continuing education programmes of comparable quality as may be specified by the UGC after placement in the Senior Scale; and

(v) consistently good performance appraisal reports.

(c) Promotion to the Post of Reader will be through a process of selection by a Selection Committee to be set up under the statutes/Ordinances of the University concerned or other similar committees set up by the appointing authorities.

2(C) Lecturer *(Selection Grade)*

Lecturers in the Senior Scale who do not have Ph.D. degree or equivalent published work and who do not meet the scholarship and research standards, but fulfill the other criteria prescribed in (2) B(b) above to the post of Reader and have a good record in teaching and/or participation in extension activities, will be placed in the Selection Grade subject to the recommendations of the Selection Committee for promotion to the post of Reader. They will be designated as Lecturers in the Selection Grade. They could offer themselves for fresh assessment after obtaining Ph.D. and/or fulfilling other requirements for promotion as Readers, and if found suitable, could be given the designation of Reader.

3(A) **Lecturer**

(a) *Arts, Sciences, Social Sciences, Commerce, Education, Physical Education, Foreign Languages and Law.*

Good academic record with atleast 55% marks or an equivalent grade at Master's degree level in the relevant subject from an Indian University or an equivalent degree from a foreign University.

Candidates besides fulfilling the above qualifications should have cleared the eligibility test for Lecturers conducted by UGC, CSIR or similar test accredited by the UGC.

(b) *Journalism and Mass Communication*

Good academic record with atleast 55% marks or an equivalent grade at Master's degree level in communication/mass communication, journalism from an Indian University or an equivalent degree from a foreign University.

Candidates besides fulfilling the above qualifications should have cleared the eligibility test for Lecturers conducted by UGC, CSIR or similar test accredited by the UGC.

OR

Atleast 55% marks or an equivalent grade at Master's degree level in Social Sciences/Sciences/Humanities with atleast second class bachelor's degree or Postgraduate diploma in communication/mass communication or journalism from a recognised Indian University/ National Institute.

Candidates besides fulfilling the above qualifications should have cleared the eligibility test for Lecturers conducted by UGC, CSIR or similar tests accredited by the UGC.

(c) *Music*

Good academic record with atleast 55% marks or an equivalent grade at Master's degree level in relevant subject or an equivalent degree from an Indian/Foreign University.

Candidates besides fulfilling the above qualifications should have cleared the eligibility test for Lecturers conducted by UGC, CSIR or similar test accredited by the UGC.

OR

A traditional or a professional artist with a highly commendable professional achievement in the subject concerned.

3(B) **Lecturer** *(Senior Scale)*

Every lecturer will be eligible for placement in a senior scale of Rs. 3000-5000 through a procedure of screening/selection laid down by the University in accordance with guidelines of UGC referred in Para 2B(a) above, if he has :

(i) completed 8 years of service after regular appointment with relaxation as provided in Notes (2) & (3) below.

(ii) participated in two refresher courses/summer institutes, of approved duration or engaged in other appropriate continuing education programmes of comparable quality as may be specified by the UGC;

(iii) consistently satisfactory performance appraisal reports.

Notes

(1) For placement of Lecturers in Selection Grade as well as for promotion to the post of Reader, the required number of positions would be created by upgrading the posts held by the incumbents concerned.

(2) In order to encourage research, in continuation of Postgraduate studies, candidates who, at the time of recruitment as Lecturers, possess, Ph.D. or M.Phil. Degree (called jointly as the 'research degrees'), will be sanctioned three and one advance increments respectively in the Scale of Rs. 2200-4000 alongwith the benefit of the corresponding years of service for the purpose of promotion. The existing Lecturers without research degrees, and those similarly situated recruited in future will be eligible for a similar benefit in service for the purpose of promotion as and when they acquire research degrees, but will not be eligible for advance increments. Existing Lecturers with research degrees will also be eligible for similar benefit.

(3) Counting of previous service for the purpose of placement in Senior Scale/Selection Grade will be in accordance with UGC Guidelines issued vide circular No. F. 1-6/90(PS Cell) dated November 27, 1990.

It may however be noted that the instructions as contained in UGC letter No. F.4-12/86(NET) dated 30th January 1990 stand without any change.

Pay Scale of PVCs/ Rectors in Central Universities

The Government of India, in consultation with the University Grants Commission, after taking into consideration the revised pay scales of teachers in universities and colleges, the pay of Vice-Chancellors and various other factors, have decided vide their circular No. F. 10-65/88-Desk(U) dated 3rd July, 1991 that the Pro-Vice-Chancellors/Rectors in Central Universities may be granted the revised scale of Rs. 5900-200-7300, subject to a minimum of Rs. 6500/- per month.

The above scale of pay will be effective from 1-1-1986.

The Pro-Vice-Chancellors will be entitled for such allowances as are admissible under the Rules of the concerned university.

'Ambassadors in Residence' at Varsity Centres

The University Grants Commission (UGC) has decided to set up 15 placements of 'Ambassadors in Residence' at the Area Study Centres of the various university for promoting interaction between these study centres and the Ministry of External Affairs, Government of India. At present the Commission is assisting 17 such Area Study Centres in 15 Universities.

Under the scheme of 'Ambassadors in Residence' Indian diplomats who are serving as ambassadors or very senior officers in the country's diplomatic missions abroad will receive the placements at the university area study centres for pursuing research in special areas of their interest for a period of one to two years. The officer will continue to receive his/her salary from the Ministry of External Affairs as usual and the Commission would extend a project grant upto Rs. 50,000/- per annum. During their placements 'Ambassadors in Residence' will participate in research and teaching activities of the concerned university departments, and conduct seminars and symposia. They will also coordinate needed interaction between the Ministry and the University departments.

Earlier, the third conference of the directors of Area Study Centres held in 1985 at Srinagar had emphasised the need for close relationship between centres and various Ministries of the Government of India. Keeping this in view, the UGC in consultation with the representatives of the Ministry of External Affairs has framed the scheme of the 'Ambassadors in Residence' Similar schemes are already operating in several other countries like the USA, Germany, France etc. under which close links exist between the policy planners in the ministries of foreign affairs, education and economic departments of their governments and higher research institutes and areas study centres.

News from Abroad

Smith Report on Canadian University Education

Universities have been given a "pass" grade by a one-man commission of inquiry on Canadian university education — though the report is sharply critical of some teaching practices.

Academic reactions to the report have ranged from muted praise to loud criticism that it did not place more emphasis on university underfunding.

Stuart Smith was asked to review the education missions of the country's universities by the Association of Universities and Colleges of Canada (AUCC). He is president of Rock Cliffe Research and Technology, a psychiatrist, former leader of the Ontario Liberal Party and a former chairman of the Science Council of Canada.

His verdict — after a year during which he received 250 written briefs, heard more than 200 presentations and commissioned five special studies — is : "Canada's universities are fundamentally healthy and are serving the country well".

The report did, however, identify several areas of concern related to an imbalance between teaching and research, and the failure of universities to explain what they do and how well they do it.

He made 63 recommendations in all for a wide range of actions, including that funding be increased by government grants and increased tuition fees to raise it from the current level of between $1,500 and $2,500 per student.

However, many academics were disappointed with Mr. Smith's conclusion that there was "no evidence that the quality of university graduates has suffered a serious decline as a result of financial constraints".

Bill Graham, president of the Ontario Confederation of Faculty Associations, said: "Canada's universities are in much worse shape than this report indicates."

Student groups were furious with the recommendation that tuition fees be gradually increased from 17 to 25 per cent of operating costs. The Canadian Federation of Students denounced the proposal as "outrageous at a time when most students are struggling to survive".

In rebuttal, Mr Smith said that while universities need more money, there was not much around and challenges faced would not automatically be resolved by a general increase in budgets.

"Universities feel they are being picked on more than hospitals, welfare or bridges", he said. "As a result, government officials feel that universities are out of touch with reality."

The report points out that although enrolments are increasing and funding has not kept pace, there has been a decline in teaching loads. Mr. Smith said teaching was being "seriously undervalued at Canadian universities and nothing less than a total re-commitment to it is required."

Among the recommendations are that academics chose between being evaluated primarily on teaching or research, teaching loads be increased, Ph.D candidates be offered teaching training if entering an academic career, and an academic auditing committee be set up to monitor quality and accountability.

Group Vs Individual Study

Students who organise study groups that meet outside lecture theatres do better than students who work hard but on their own, according to research carried out by Harvard University.

The report, which is expected to influence undergraduate studies at American universities, shows that students perform much better if they are in small classes and if they have contact with academics and other students.

Based on a five-year research project, the report is the second of two reports on what constitutes effective teaching and learning at Harvard. There is a good deal of concern about the quality of undergraduate studies which are thought to be neglected in favour of research and postgraduate teaching.

The first Harvard report found that students learned better and professors were more effective in courses where students were given frequent tests and one-minute exams at the end of lessons.

The second report recommended that professors should set up study groups for students outside the classroom where the students do not set up such groups themselves.

These study groups exist in law schools where students find it an extremely effective method for learning cases and helping one another absorb a large amount of information.

SCHOOL OF CORRESPONDENCE COURSES
ANDHRA UNIVERSITY: WALTAIR

Notification for Supplementary Examinations of 1991
For B.A./B.Com./B.Sc. under Common Core Scheme

The last date for the receipt of Examination Applications together with the prescribed fees for the supplementary examinations of 1991 to be held in February/March, 1992 for the candidates appearing for B.A., B.Com. and B.Sc. Degree Examinations (under Common Core Scheme) through the School of Correspondence Courses is 9th January, 1992. This notification applies to the candidates appearing under Common Core Scheme through the School of Correspondence Courses only.

The dates of commencement of B.A./B.Com./B.Sc. under Common Core Scheme are as follows:

Examination	**Date of commencement of Examinations**
I B.A./B.Com./B.Sc.	11-3-1992
II B.A./B.Com./B.Sc.	29-2-1992
III B.A./B.Com./B.Sc.	18-2-1992

Applications received after the prescribed date will not be accepted. Incomplete and defective applications will be summarily rejected.

Examination application form and other particulars relating to the commencement of examinations, mode of payment of examination fee, list of examination centres, amount of examination fee etc., will be sent to all the students of the School of Correspondence Courses who are studying B.A/B.Com./B.Sc. under Common Core Scheme.

Waltair
Dt. 21-12-1991

Prof. V. Abraham
DIRECTOR

CALENDAR OF EVENTS

Proposed Date of the Event	Title	Objective	Name of the Organising Department	Name of the Organising Secretary/ Officer to be Contacted
January 22-24, 1992	Seminar on Economic Stratification & Changing Nature of Caste in Western India	To discuss the changing nature of caste in the context of changing society	Centre for Social Studies, Surat	Dr. Arjun Patel, Associate, Centre for Social Studies, South Gujarat Campus, Surat - 395 007
March 9-15, 1992	International Conference on Experiential Learning	To promote experiential learning and other scientific, educational, cultural and related activities and spiritual pursuits	Indian Society for Experiential Learning, Pondicherry	Prof. S. Mohan, Prof. of Physics, Pondicherry University, Pondicherry
August 11-16, 1992	8th World Congress for Rural Sociology	Theme : Rural Society in the Changing World Order	International Rural Sociology Association, USA	The Pennsylvania State University, 306, Agricultural Administration Building, University Park, Pennsylvania - 16802
August 16-19, 1992	55th Annual Meeting of the Rural Sociological Society	Theme : Rurality and the Global Environment	Rural Sociological Society, USA	-do-
August 26-28, 1992	Second International ISKO Conference on Cognitive Paradigms in Knowledge Organisation	To provide a forum for scholars working in the field of knowledge organisation	Madras Library Association in collaboration with Sarada Ranganathan Endowment for Library Science and University of Madras	Mr. S. N. Kumar Conference Secretariat, 5, Sivaganga Road, Madras-600 034
October 26-31, 1992	Third IAU Mid-Term Conference to be held at Alexandria, Egypt	Theme:Adaptation of University Management Structures and Strategies for New Requirement	International Association of Universities (IAU), France	Dr Franz Eberhard, Secretary General, International Association of Universities, 1, rue Miollis, 75732 Paris Cedex 15 France
November 9-13, 1992	16th World Conference on Distance Education for the Twenty-First Century	To give a view of the aspects of development in Distance Education in the Twenty-First Century	International Council for Distance Education, in cooperation with Sukhothai Thammathirat Open University (STOU), Thailand	Mr. Bruce Scriven, Program Chair – 16th World Conference of ICDE, Queensland University of Technology, Locked Bag No. 2, Red Hill Queensland 4059, Australia

A Panoramic View

S. Bashiruddin*

Davendra Issar. Communication Mass Media & Development. Delhi , Unique Publications, 1991. Pp. 130. Rs. 160/-

There have been dramatic developments in communication studies, but the contents of this work reveal a mere integration of the various approaches and concepts of communication and effects of media, rehashed for the benefit of summary information to beginners. Nevertheless, as a textbook it serves the purpose of delineating several theories in one book, even if they are not expanded fully.

The book seems to be an attempt at summarising and collating various models and theories of communication, mass media and social change. However, the author, Davendra Issar does not take a fresh look at these. He also merely explains but does not interpret the concepts or provide new insights.

Outline presentation of the problem with a couple of models of communication graphically presented does not delve deep into the subject proper. Most of the concepts cited are of western relevance based upon American experience and conceptualisation founded on field work done in that country.

On the non-verbal communication, the author traces its origin to Greek and ancient Indian contributions of 'Kathakali' and related dance movements. Recent studies cited do not go beyond 1970s. However, relevance of non-verbal modes to effective communication has been emphasized which recent research confirms.

Issar raises several issues but leaves them unanswered. Everett Roger's diffusion model is quoted in summary form but no further insight applicable to Indian conditions has been furnished.

The chapter on diffusion of innovations based on two-step flow concept needs revision as several recent approaches involving multi-step flow, spacial process of dissemination, transport and satellite functions have supplanted. References to 'midwestern' or the 'eastern community' of the US is mentioned without specifying that country. The book makes references to India but there is no case study or detailed analysis of our problems from the developmental approach in depth.

The block of chapters on Communication and Development is the only place where Indian authors like Kusum Nair, S.C. Dube and Y.V. Lakshman Rao are mentioned. However, the redeeming feature of this work is the compact chapters devoted to several areas like non-verbal communication, attitudes, social effects, public opinion, education and culture, etc.

On the developmental approach there are five brief chapters on communication and its relevance to modernisation, social change, educational communication and entertainment, television, which no doubt, though brief, sum up the impact of these areas without necessarily giving the processes involved.

The effects of mass media on attitudes have been cited basically quoting Wilbur Schramm and the now legendary Orson Wells' 1938 broadcast of the fictional invasion from the mars.

More recent studies with diversified impact of mass media especially the global impact of CNN and other satellite TV facilities including the impact of Gulf War news make Issar's examples look remote and dated.

There is no mention of the recent studies in India on media's impact on development especially touching on SITE and Krishi Darshan on which a number of scholars have attempted field work. It would have been better if the author had even made passing references to the work of B.Kuppu Swamy and M.N. Srinivas who have been pioneers in India on social change.

At the end of each chapter a further reading list is given which to some extent ameliorates the lack of comprehensive coverage of Indian society and its response to the media.

In sum, the book is a window to the enormous problems and the panoramic scenario of communication media and its effects on social development.

Though hard-bound and stitched for durability, its price of Rs. 160/- is beyond the reach of the average students of communication who would have benefited by exposure to contents. The slim volme of 130 pages is a useful addition to communication literature in libraries and schools of mass communication besides media agencies seeking brief though basic processes and impact of communication.

**Profssor & Head of the Department, Department of Communication & Journalism, Osmania University, Hyderabad - 500 007.*

Value Based Education

Shri H.G.S. Arulandram needs to be congratulated for his short article, "Needed : Value Based Education" (*University News*, Vol. XXIX, No. 48 of Dec. 2, '91) and the concrete suggestions therein.

Shri Arulandram precisely underlines the 'love' factor in interpersonal relationships. I would like to add here that it may work perceptibly favourably if the teacher can communicate subtly but definitely his affection to his pupils and evoke in them the feeling that they are being cared for, that the entire activity of education is primarily for them, and not because a certain number of people should get employed as teachers. There is a growing feeling of alienation, of being connived at among our youth, both at home and in educational institutions. In other words, a mercenary attitude on the part of the teacher hinders rather than helps the creation of a genial and healthy atmosphere, despite certain genuine difficulties that may gall a certain teacher. Acceptance and affection make teaching fruitful. I am strongly tempted to quote some lines from D.H. Lawrence's poem "The Best of School" where a teacher's warm heart for the pupils is revealed :

> As tendrils reach out yearningly,
> Slowly rotate till they touch the tree
> That they cleave unto,
>   and up which they climb
> Up to their lives — so they to me.
> I feel them cling and cleave to me
> As vines going eagerly up; they twine
> My life with other leaves, my time
> Is hidden in theirs, their thrills are mine.

I also feel that, before it is too late, the issue of imparting moral education somehow needs to be dealt with on war footing, the same way as population education is understood to have been taken up now. Shri Arulandram suggests that the syllabi in languages must include a scope for inculcation of values. May I point out as an unfortunate fact that in most universities in our country language education is either severely marginalised or practically dispensed with especially in the commerce and science courses? A popular notion has gripped us that language (with its best usage in creative literature) is an unnecessary adjunct in the syllabus. Admissions to medical and engineering courses are made irrespective of the entrant's low percentage of marks in a language, secured at the preceding qualifying examination (such as std. XII). This has definitely weaned us from reading habits. As a result, a 'viewing culture' is emerging fast, sans all the merits that good reading can inculcate. Moronic engagement is sought for and provided, leaving no room whatsoever for the life of the mind, which is a life spent in the light of values.

Shirish Chindhade,
Principal,
Manghanmal Udharam
College of Commerce,
Pimpri-Pune : 411 017,
(Maharashtra)

University News

Wishes

its Readers

A

HAPPY NEW YEAR

1992

AIU Library & Documentation Services

One of the important functions of the Association of Indian Universities is to act as a clearing house of information on higher education in the country. Towards this end the AIU Library is engaged in collection building and developing instruments for the dissemination of research information. Over the years a valuable collection of books and documents on different aspects of higher education has been acquired.

The library has also developed Bibliography of Doctoral Dissertations as an effective tool in the dissemination of research information. Retrospective bibliographies covering the period 1857-1970 and 1970-75 were the first to appear. Effective 1975, however, the bibliography is issued annually in two volumes. One volume deals with Natural and Applied Sciences while the other records doctoral degrees awarded in Social Sciences and the Humanities. In addition to the normal bibliographical details like the name of the Research Scholar, the title of the thesis, years of registration for and award of the degree, and the name of the University accepting the thesis for award of a doctoral degree, the bibliography also gives name and complete address of the supervising teacher and an availability note that seeks to inform whether a copy of the dissertation is available for consultation and use in the University Library/Department or Registrar's Office.

The columns 'Theses of the Month' and 'Research in Progress' are intended to cut out the time lag between the receipt of information and its inclusion in the bibliography. Such universities as are not sending us regular information in respect of doctoral theses accepted and research scholars enrolled are welcome to make use of these columns.

The library also receives about a 100 periodical titles on higher education. All these are indexed regularly and a select list appears every month as 'Current Documentation in Education'. Similarly the column 'Education News Index' reports editorials and articles on higher education published in over 20 newspapers that are received in the library from all over the country.

The Library is open from 9.00 a.m. to 5.30 p.m. Monday through Friday.

THESES OF THE MONTH

A list of Doctoral Theses accepted by Indian Universities

HUMANITIES

Philosophy

1. Baghershahi, Ali Naghi. **Social philosophy of Mutahhari in modern perspective.** AMU. Prof S Waheed Akhtar, Head, Department of Philosophy, Aligarh Muslim University, Aligarh.

2. Bhatnagar, Sunita. **Vivekanand ka samaj darshan.** Durgawati. Dr (Kum) G Sinha, Department of Philosophy, Rani Durgawati Vishwavidyalaya, Jabalpur.

3. Ghosh, Papia. **Bertrand Russell kee gyan mimanasa: Ek adhyayan.** Durgawati. Dr (Kum) Chhaya Rai, Prof, Department of Philosophy, Rani Durgawati Vishwavidyalaya, Jabalpur.

4. Indira, K. **A comparative study of the religious philosophies of Tagore and Radhakrishnan.** Calicut. Dr E I Warrier, Department of Philosophy, University of Calicut, Calicut.

5. Tariq Islam. **Gilbert Ryle's analysis of thinking.** AMU. Prof S Waheed Akhtar, Department of Philosophy, Aligarh Muslim University, Aligarh.

Fine Arts

Music

1. Kamla Rani. **Performance level of students in music: A critical study of its determinants.** Kurukshetra.

2. Rashmi Bala. **Musical perference in relation to discrimination between notes and certain psychological variables.** Kurukshetra.

3. Savitri Devi. **Haryana Pradesh mein sangitik vikas: Ek adhyayan.** Kurukshetra.

Language & Literature

English

1. Bhargava, Ajay. **Somerset Maugham as a literary critic.** Vikram. Dr B G Tandon, Head, Department of English, Vikram University, Ujjain.

2. Bhatnagar, Om Prakash. **Indian political novel in English: A study.** Nagpur. Dr N R Kanadey, Department of English, Nagpur University, Nagpur.

3. Dabir, Urmila Wamanrao. **A study of realism in the novels of W Somerset Maugham.** Nagpur. Dr D G Deshmukh, Ex Reader, Department of English, Nagpur University, Nagpur.

4. Elhance, Jyotika. **Naturalism in the novels of Stephen Crane.** Kumaun. Dr D K Lal.

5. Jhamb, Kiran. **Jane Austen: Her mind and art.** Nagpur. Dr R N Roy, Former Head, Department of English, Nagpur University, Nagpur.

6. Joseph, T G. **An analytical study of C P Snow's Strangers and Brothers: Sequence of novels in its social, political and historical context.** Madras.

7. Khan, Javed Hussain. **T S Eliot and the 'Strange Gods: The problems of belief.** Patel. Dr K D Kurtkoti, Ex-Prof, Department of English, Sardar Patel University, Vallabh Vidyanagar.

8. Narasipuram, Gopal. **Discourse analysis of the Faerie Queene: A linguistic study.** Berhampur. Dr Appna Pradhan, Principal (Retd), 1457 Laxmisagar Patna, Bhubaneswar.

9. Radhakrishnan, M. **D H Lawrence's search for a unified and creative consciousness: A study of his ideas of nature, self and art in the light of traditional Indian thought.** Calicut. Dr Sankaran Ravindran, Department of English, University of Calicut, Calicut.

10. Siddiqui, Mohd Asim. **Mark Twain as a reformer and thinker.** AMU. Prof Maqbool Hasan Khan, Department of English, Aligarh Muslim University, Aligarh.

Sanskrit

1. Chillara, Lalitha Rani. **A study of Sri Venkatachala Mahatmyam with special reference to Varaha and Bhavisyottara Puranas.** Venkateswara. Prof S B Raghunathacharyulu, Prof and Head, Department of Sanskrit, Sri Venkateswara University College, Tirupati.

2. Choubey, Ram Gulam. **Sanskrit sahitya mein Balram charitra.** HS Gour. Dr R V Tripathi, Head, Department of Sanskrit, Dr Hari Singh Gour Vishwavidyalaya, Sagar.

3. Jain, Sadhana. **Mandar Maranda Champu kavya ke natyashastriya ansh.** HS Gour. Dr Kusum Bhuriya, Department of Sanskrit, Dr Hari Singh Gour Vishwavidyalaya, Sagar.

4. Joshi, Kamala. **Jainsammat Darvyaswaroop vishleshan.** Kumaun.

5. Joshi, Luxmi. **Mahakavi Bhas ke roopkon mein shishtachar.** Kumaun. Dr Kiran Tandon.

6. Nidhi. **Mahabharat ke moksha-dharma parva mein moksha kee avadharana.** AMU. Prof S P Singh.

7. Pant, Lajja. **Anubhooti swaroopacharya pranati "Saraswat Vyakaranam" ka sameekshatmak adhyayan.** Kumaun. Dr H N Dixit.

8. Pawan Kumar. **Magh virachit Shishupal Vadh, Ek sanskritik adhyayan.** HP.

9. Rath, Rabi Charan. **Hindu dharamasya vrattatva vimarsha.** Jagannath. Dr Jaya Krushna Mishra, Lecturer, Department of Dharmasastra, Shri Jagannath Sanskrit Vishwavidyalaya, Shri Vihar, Puri.

10. Sharma, Anil Kumar. **Mandukya Krika: Ek sameekshatmak adhyayan.** HP.

Punjabi

1. Darshan Singh. **Punjabi culture in Shiv Kumar's poetry.** Panjab.

Hindi

1. Agrawal, Anita. **Ritikaleen veerkavya: Acharya Somnath ke kavya ke sandarbh mein vishesh adhyayan.** Kumaun. Dr D K Paneru.

2. Chandra Bhan. **Acharya Ramchandra Shukla kee itihas-drishti: Adhunik kal ke sandharbh mein.** Delhi.

3. Chauhan, Sakuntla Devi. **Bharat Bhushan Agrawal ka kavya: Samvedna aur shilpa.** HP.

4. Dhakolia, Sheela. **Reetikaleen Hindi kavya mein bhakti ka swaroop.** Jamia. Dr S Asghar Wajahat, Department of Hindi, Jamia Millia Islamia, New Delhi.

5. Gangrade, Sandhya. **Pt Ramnarayan Upadhyaya: Vyakti aur sahityakar.** Vikram. Dr Shivshaya Pathak, Head, Department of Hindi, Vikram University, Ujjain.

6. Geetha Kunjamma, C. **Dr Ramkumar Varma ka kavya.** CUST. Dr N G Devaki, Lecturer, Department of Hindi, Cochin University of Science and Technology, Kochi.

7. Gehalot, Mularam. **Malwa ke lok natak: Swarup, vishleshan aur mahatva.** Vikram. Dr P K Mishra, Udyan Marg, Kothi Road, Ujjain.

8. Girija, N. **Depiction of class-conflict in the works of Nagarjun.** CUST. Dr M Easwari, Prof, Department of Hindi, Cochin University of Science and Technology, Kochi.

9. Goyal, Mamta. **Pragatisheel kavyadhara aur Nagarjun ka kavya.** Vikram. Dr Shakuntala Singh, Department of Hindi, Govt Girls College, Khandwa.

10. Gupta, B N. **Ritikaleen parampara aur Acharaya Bhikharidas. D.Litt.** Kumaun.

11. Jain, Sangeeta. **Swatantrayottar Hindi kavita mein navgeet, 1961-80.** AMU. Prof R N Bhramar, Head, Department of Hindi, Aligarh Muslim University, Aligarh.

12. Joshi, Tara. **Pragativadi kavyandolan ke sanskritik evam sahityik mulyon ka adhyayan.** Kumaun. Dr Rekha Dhai.

13. Khan, Mohd Imtiaz. **Dharamvir Bharati ke kavya ka swachhandatavadi drishti se mulyankan.** AMU. Dr Ajay Singh Sulaiman.

14. Laxman Singh. **Mahadevi Verma ke kavya mein abhivyakta vidhan aur uske vividh ayam.** Kumaun. Dr D S Pokhri.

15. Mishra, Rekha. **Sathottar Hindi upanyas mein nari.** Delhi.

16. Pandey, Chandreshwar. **Hindi natya aur rangmanch kee yatharthvadi parampara mein Bhartiya Jannatya Sangh ke pradeya ka adhyayan aur mulyankan.** Patel. Dr S K Mishra, Ex-Prof, Department of Hindi, Sardar Patel University, Vallabh Vidyanagar.

17. Pant, Neera. **Swatantrata poorva Hindi nibandhon ka kathya evam shilpagat adhyayan, prarambh se san 1945 tak.** Kumaun. Dr H B Gahtori.

18. Parmel Singh. **Vidyapati kee Padavali: Saundryatatvik vivechan.** Panjab.

19. Prabhakar. **Mahadevi Varma ke gadya sahitya mein nari jeevan.** Osmania.

20. Punjabi, Saroj. **Uttar chhayavadi kavya kee pravrittiyan aur Ramdhari Singh Dinkar ka kavya.** Vikram. Dr Urmi Sharma, Department of Hindi, Govt Girls College, Ujjain.

21. Raghuwanshi, Manju. **Ritikaleen alankar tatha nayika bhed nirupan parampara mein Padmakar ka sthan.** Kumaun. Dr D K Paneru.

22. Rautela, Vimla. **Azadi ke bad kee nari chetana ke vikas ke paripreksya mein mahila kathakaron ke sahitya ka adhyayan, 1950- 1975.** Kumaun. Dr L S Bisht.

23. Sah, Kalpana. **Rahul Sanktyayan ke yatra sahitya ka samgra adhyayan.** Kumaun. Dr (Smt) B K Singh.

24. Sasidharan, R. **A comparative evaluation of social satire in the Hindi and Malayalam drama after 1950.** Calicut. Dr M S Viswambharan, Department of Hindi, University of Calicut, Calicut.

25. Satyanarayana Sastry, A. **Sathottar Hindi kahani mein stree purush sambandh.** Venkateswara. Dr D Dastagiri, Reader and Head, Department of Hindi, Sri Venkateswara University, Tirupati.

26. Shah, Harish Chandra. **Premchandottar upanyason mein dampatya jeewan.** Kumaun. Dr L K Mishra.

27. Sharma, Lalita. **Kamaleshwar ke katha sahitya mein yug chetana.** HP.

28. Sujata, Gorijala Baby. **Swatantrayottar, 1950-70 Hindi Telugu upanyason mein ithihasik tatva.** Osmania.

29. Tewari, Hansa. **Somnath ka Acharyatva.** Kumaun. Dr M Pathak.

30. Tiwari, Kirti. **Swatantrayottar Hindi natya kavyon ka shaili vaigyanik adhyayan.** Kumaun. Dr (Kum) Neerja Tandon.

31. Upadhyay, Basant Ballabh. **Dinkar ke prabandhettar kavyon mein abhivyakta Bhartiya sanskriti evam darshan.** Kumaun. Dr H B Gahtori.

32. Upreti, Deepak Chandra. **Kumaun kee holiyon ka adhyayan.** Kumaun. Dr L K Mishra.

33. Vidushi. **Nai kahani: Prateek sandarbh.** Panjab.

34. Virendera, Indu. **Hindi kavya mein nari sambandhon ka vishleshnatmak adhyayan.** Jamia. Prof Mujeeb Husain Rizvi, Department of Hindi, Jamia Millia Islamia, New Delhi.

Mundri

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The application on plain paper completed in all respect alongwith photocopies of testimonials/experience certificate should reach the Registrar, National Institute of Educational Planning and Administration, 17-B, Sri Aurobindo Marg, New Delhi latest by **20th January, 1992.**

Pravara Rural Education Society's

PRAVARA RURAL ENGINEERING COLLEGE, LONI-413 736

Tal.Shrirampur,Dist.Ahmednagar (M.S)

(AFFILIATED TO UNIVERSITY OF POONA)

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4.	Computer Engineering	1	4	2
5.	Chemical Engineering	1	1	2
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UNIVERSITY OF BOMBAY

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BOMBAY
Date : 18th December, 1991

B. Ramesh Babu
Head of the Dept.

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Editor :
SUTINDER SINGH

Peace Education and International Community

S. N. Prasad*

The Mahabharata tells us that the only secret which you have to know is that there is nothing higher than man in this world. But men exploit men. The common masses of every nation are exploited and oppressed by their masters whether they are dictators or democrats. Common people everywhere are poor and slaves. Even intellectuals are not free (excluding a few exceptions) from the organised authority of concerned institutions of the society. Their status is no better than illiterate people. Everywhere there is oppression, exploitation, poverty and injustice throughout the world including in our own nation which lead to naxalism, terrorism, violence and war.

Conscientization, which begins among the oppressed and exploited, is the main goal of peace education. Conscientization means awareness and awakening of people towards their oppressive and exploitative conditions and situations to fight for their liberation by non-violent means. According to Paulo Freire the term "Conscientization" refers to learning to perceive social, political, and economic contradictions and take action against the oppressive elements of reality. The conviction of the oppressed that they must fight for their liberation is the result of their own conscientization. Conscientization enrolls men in search for self-affirmation. Conscientization, according to Mathew Zachariah, is more oriented towards change in material world to be brought about by militant group mobilization whereas Sarvodaya (of Mahatma Gandhi's non-violent movement) emphasises social change by teaching individuals to change themselves or awakening of all.

Peace education views the world as one whole, a single community, a fellowship of human beings who have the same instincts of hunger and sex, the same aspirations of generosity and fellow-feeling. People share a common origin and a common destiny: *ekaiva manusijatih* (the human race is one). Hence the world should be based on a communication of minds and hearts: *Homo-noia*, of one mind.

Humanity is not a mere organisation but it is a living organism united from within by those values which are inseparable from human dignity and freedom. When the sense of human community is absent, society becomes a riotous mob. Mahatma Gandhi said, "A fallen and prostrate India cannot be of help to herself or the world. A free and enlightened India can be of help to herself and the world. I want my country to be free so that one day if need be, she may die so that humanity may live".

Homo sapiens is everywhere the same. Therefore, the basis of a scheme of peace education is cosmopolitan. Peace education helps people to become human. It develops a sense of belonging to humanity, and strengthens it by connecting man with man. It helps people to feel more for other people, enable them to change the exploitative and oppressive society, and to create non-violent and just community. Peace education assures peoples peace. Peoples peace protects those who are afflicted with poverty, sickness, bereavement, unemployment, imprisonment, exile and oppression, and on the whole it protects the masses from all types of exploitation. Ivan

(Contd. on page 5)

**World President, International Association of Educators for World Peace – IAEWP, Janata College of Education, Post Box No. 113, Chandrapur-442 401, Maharashtra.*

MARKET THEORY IN EDUCATION

Mohd. Muzammil*

Education has become a very big enterprise ridden with multi-dimensional problems. One important dimension is the financial crisis in educational institutions which gives rise to several other constraints. If a diagnosis of this problem is to be attempted from economic angle, a theory of market can be evolved for this huge enterprise. Education has often been regarded as a free social good or at best a merit good. Even in these cases it was generally believed that the supply of education was not to be subjected to the market principle of supply and demand. It was seldom analysed in the framework of a standard market theory. But if, even primary tools of market theory are applied to education, the entire sector can be brought down, for purposes of analysis, into a market framework. The demand for education, the supply of education, the costs involved in producing educational services, the analysis of factor market in education, the persistence of excess demand for education can all be subjected to strict economic diagnosis and that too in a market theory framework.

As an overview, it may be said that in this paper, theory of market has been applied for analysis assuming that education is an industry. This obviously leads us to discuss the relative position, shape and shifts of the demand and supply curves of education. Optimal and sub-optimal levels of operation of educational institutions have been specified. Two important consequences of the sub-optimal functioning of the industry are :

1. An economist can not only analyse the present, he can also foresee the rapidity of change in the economy which together enable him to diagnose and prescribe more realistically. One may immediately object that education is not an economic commodity (like all other ordinary ones) which can be brought down so precisely under the straitjacket of demand theory. But, then in the present days' economic system nothing appears to be thriving on only pure philosophic and philanthropic arguments which did, of course, reign supreme in the days gone by. In those days philanthropists and psychologists had a greater say in the process of education and economists had to base their arguments on their perceptions and principles.

Education has traditionally been left out of the purview of market theory but now when it is competing for increasing share in government's budget it cannot be treated in isolation without any reference to factors like cost of education, the total supply and demand for education, the divergence therein and its implications, etc. If the theory of social goods is applied to education, it escapes the application of market mechanism in its entire operation and thus remains to be treated virtually a standard social good the supply of which remains a function of government's directive and State monopoly has often been decried by economists since long. One of the important reasons for the inefficient working of the education sector has been, as in case of many a public undertaking, assured salaries and absence of a monitoring system of the performance of the teacher and the institution concerned. Production of educational services in the institutions financed almost entirely by government with least participation of the students' finance (the consumers of the service) has been very inefficient and leaves much to be desired, while in those institutions where private participation in one form or the other is substantial, the working has certainly shown better results.

State monopoly in the supply of any commodity or service has often been decried by economists since long. But even then, education (or certain levels of it) has virtually been a State monopoly in several countries. In fact this has been the case not only with education, but in certain countries, the whole economy or a major part of it has also been operating in a similar fashion. But now the efficiency of market mechanism has been recognised and well established there also and market theory is being applied to have better solution of the current problems. In fact an economist of education can look longer and more realistically into the future. This is because the non-economic explanation of educational crisis is gradually declining.

Fee as Price of Education

Education is a sector where consumers (students) purchase this service at unrealistic price which is not formed by the market forces. Students in the higher education sector in particular are consuming education at a price (fee) which can by no means be said to be an appropriate price for the service.

UGC, Career-Awardee, Department of Economics, Lucknow University, Lucknow - 226 007.

20 JAN 1992

It cannot sustain its existence which is marked by appropriate pricing of goods sold there. Thus if the consumers of education, the students, do not pay appropriately for their consumption (education) the system can hardly operate efficiently. Over the years the demand for education has increased enormously for all levels of education, but its price has not increased (or was not allowed to go up). In the case of an ordinary product, an increase in demand generates pressure of prices and consequently prices rise so as to limit demands to available supplies of goods. In fact prices serve as the balancing device which acts to bring demand and supply into equilibrium. But in case of education, like a ration shop, prices were not allowed to go up despite the increased demand. At primary level it is supposed to be freely supplied. Each potential demander will expect to satisfy his demand without paying the cost explicitly (although he may incur some cost in the form of earnings foregone during the period of education). In fact adequate supplies to meet all demands at zero prices are simply not available, even in countries with abundant resources like the USA and the U.K. Similarly if efforts are made to match the supplies with increased demand for education, compromise is usually made on the *quality* of education.

Two means are available for limiting demand in a situation where price is not allowed to rise. The first is to allow the available facilities to be over-crowded. This amounts to permitting quality to fall down. If overcrowding is not allowed resorting to direct rationing is more probable. The rationing will be made primarily by restrictions on numbers of students rather than by the general quality deterioration which over crowding represents. It does not imply that the quality of the service maintained will reflect the preference of the students. They do not have to pay full value for services (education) what legitimate right or claim they possibly have on the determination of the quality of education. This is the end result of keeping nominal fee (below normal cost) level for various types of education. The rationing process will, in fact, enhance the discretionary power of those responsible for choosing among the many applicants and reduce the power of those who are successful in securing admission.

Further, it is the higher education the possession of which creates income inequalities by enhancing the earnings of its recipients, there is thus yet another ground that the education, particularly, the higher education should be adequately priced and it is possible only by subjecting education to the market theory.

2. Education is an industry where the producers (teachers) produce at almost zero price. Thus their product (education) is highly sought after by consumers, students. To the producer demand for education seems inexhaustible and the number of demanders go on rising. By the nature of the problem that he confronts, the producer chooses which demander to satisfy. He selects one set of customers from among many demanders of education. Rationing is forced upon him and it needs no emphasis that rationing means power of man over man. Thus the producer begins to enjoy his role as chooser. Discrimination, naturally implies that some potential consumers remain unsatisfied, e.g. some students will have to be discriminated against. Those who do not get the product (admission for education) will be disappointed. The operation of market mechanism reduces the arbitrary discriminatory power of the producer. The disappointment is not personalised, in order to be successful the demander has only to meet the current price.

Since all producers work in their self-interest (exceptions apart), there is no difference between the producers of education and other producers of ordinary goods. In view of the inexhaustible number of the potential consumers, proucers also may be tempted to restrict output, which may be said to be below maximum limit. Thus the producers will not only decide whom from among their many potential consumers to favour, they will also decide how many of these to favour. They will select therefore that rate of output which suits their own priorities. Their rate will be considerably lower than that which would fully exhaust producer capabilities.

There are therefore both the dangers : personalised discrimination and production of services at low rate of operation. These will go if the education is subjected to market mechanism.

Ownership and Control

The management of any organisation/institution will be more efficient, the more integrated and close are the owners and the controllers. Economists have long been concerned about the divorce of ownership from control even in the modern business corporations. Corporate management has been alleged to hold power to make decisions that are contrary to the interests of the stockholders—who are of course, the legal owners of the corporations. Whether and to what extent management does act against the owner's interest remains a question. The same analysis can be applied to universities and educational institutions where the separation of ownership from the effective control is far more complete. In any way, corporate management does exercise a range of discretionary power within which its own interests may be protected and due regard to stockholders' wealth/interest or face the threat of replacement either directly or through a take over measure. No such limits are imposed on the management of modern educational institutions, particularly the universities where per institution financial transaction is the largest. Some economists have recommended for 'the combined administrator-faculty' hierarchy. At present no market for university shares exists which might allow outsiders or insiders to purchase rights entitling them to participate in management replacements or take overs. In a genuine sense modern university management does what it pleases. It hardly pays any regard to the interests of the ultimate owners—the tax payers of the country.

In view of the continuously rising share of the government in educational finance, it is almost entirely the public fund which is being spent for education and it would not be unrealistic to assume that it is the tax money paid by the citizens of the country. Restrictions on mismanagement and financial inefficiency in the educational institutions are, if at all, very indirect and remote. The financial working of universities, leave along small colleges and schools, remains unknown to the public and thus viewed the universities can be said to form the largest group of quasi-secret organisations in many countries. They have been so much successful in safeguarding their privacy, particularly with respect to their finances, that few are aware of the extent to which the world of higher education actually does resemble a 'conglomerate corporation'.

In the light of the above, not much imagination is needed to suggest what might follow should a market in university shares develop and universities formally turn into corporations, which are run efficiently on the principle of market theory.

Equilibrium of Educational Institution

It needs not any emphasis that the optimal equilibrium of an educational institution will be obtained with respect to the demand curve for education and the fee rate structure shown always through a straight line (like administered prices) on the assumption that fee per student remains constant for all the potential demanders of education in that institution.

Shape of the Demand Curve for Education

Education is an abstract product a differentiation of which gives rise to a negatively sloping demand curve for education of any educational institution. If the institution increases its fee, it will lose some, not all of its students, while if it reduces its price (fee) it will expand the institution's operation by attracting some additional students from other institutions. The individual institution's demand curve is depicted in Figure (i) by DD. The nature of this downward sloping demand curve is highly elastic because of the assumption of a large number of institutions offering similar education. Since the institution in question is only one of the very large number of institutions of the education sector, if it reduces its fee rate the increase in the number of students here will produce loss of students distributed more or less equally over all the other institutions so that each one of them will suffer only a negligible loss in the number of students, which may not be sufficient to induce them to change their own fee rate. This is the logical argument about the shape of the demand curve for education.

Optimal and Sub-Optimal Equilibrium Points

Since the fee rate per student is given irrespective of the number of enrolments in that institution, the fee line can be depicted as a straight line paralled to the X axis. (Fig.i).

In Fig (i) is shown the operating situation of an educational institution. On the X axis is shown the number of enrolments (students) and on the Y axis is given fee rate per student. Since fee rate is very low in normal cases, it is shown by F' level and the same rate is applicable to all the students seeking education in that institution. If free admissions were to be assumed, point E' would show the equilibrium point where OQ' number of students will be enrolled at Q' E' fee rate. It should be regarded as optimal equilibrium point which clears the market for education and OQ' E'F' will be the total fee receipt of the institution. But since open admission policy is not in operation (except in the institutions of primary education and in that case in government schools in India it is provided virtually free), less than O Q' number of students will be admitted, say Q" number of students are enrolled at the same fee rate. Then the sub-optimal equilibrium point will be R and the total fee receipt will be O Q" R F' which represent a sub-optimal solution because at this level of enrolment the readiness to pay fee by the demanders of education is in fact as

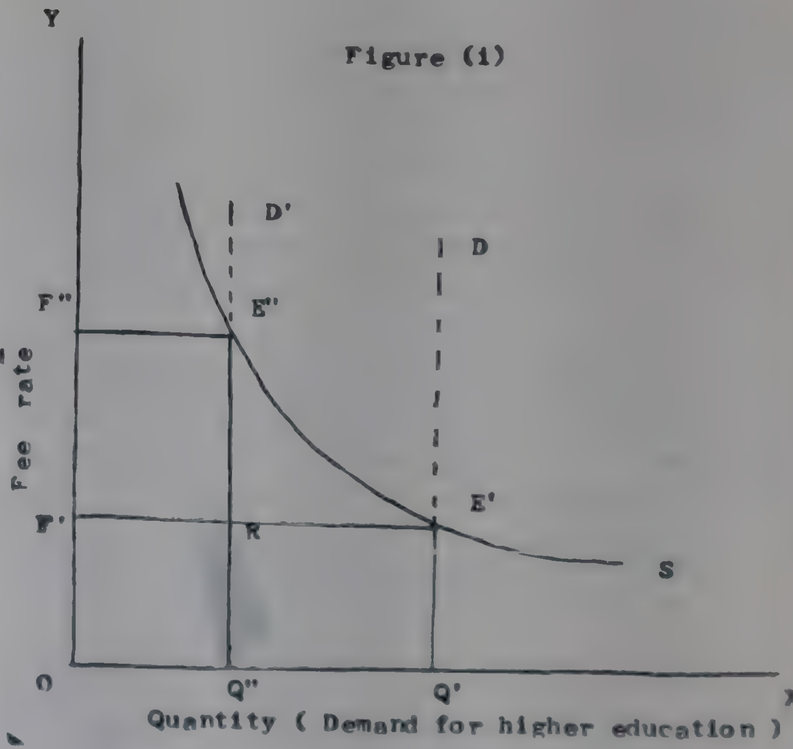
Figure (1)

high as O F" or Q" E" per student and in that case total fee receipts gathered would have been O Q" E" F". Thus by restricting admissions and charging a pre-determined fee the institution is suffering a loss of F' F" E" R in total fee collection. Thus only E' and E" can be said to be the optimal solutions with free and restricted admission policy respectively. But point R is certainly a sub-optimal solution showing the inefficient market equilibrium of the educational institution.

It can, therefore, be said that only two options are left out to reach the optimum equilibrium points : (A) The admissions should be made as much as the potential demanders for education are available, then total fee receipt will go up, and per unit cost of instruction may fall (with due care being taken of the low level of fee rate, lest it should go so low that the operating cost is found to be far ahead of the total fee receipts), and (B) that admissions should be restricted and then let fee rate be determined according to the strength of demand at that level. That will give a solution represented by point E" in the diagram mentioned above. Here also the total receipts will be much higher and thus the institution may be able to improve upon the quality of education imparted to students.

Of the above two alternatives, the second one is a better solution where education is treated as a purely market good being purchased by the suitable price bidders.

Excess Demand for Education

As in case of many other goods, in education also there exists excess demand for it from the potential consumers at all the three levels viz. primary, secondary and the higher. The relative amount of excess demand goes on rising with rising ladders of education because the supplies get restricted gradually.

At all the three levels of education, mentioned above, students are drawn from a well defined age cohort (which of course gets blurred with advances in education). For primary education, it is 5-14 years (5-11 for lower primary and 11-14 for upper primary), for secondary education it is 14-17 and for higher education it is 17-21 (though, of course, older students more often continue therein). While universalisation of enrolment is sought to be achieved in primary education which means that the demand for this level of education is generated by the total number of children in that age-group, this is not the case in case of enrolment policy in secondary and higher levels of education where only a certain percentage of the total relevant age group population are supposed to be enrolled as students even in most favourable economic conditions. Universal provision of education for these age groups is nothing more than a distant dream.

In view of the potential demanders of education at all the three levels and the actual supply of education therein, excess demand can be assessed and as the level of education rises the gap of excess demand also increases. These potential excess demands for education point toward raising the price for education, if the excess demand is to be cleared in a standard market theory framework.

Growth of Subsidiary Markets in Education

It is a phenomenon of recent origin the explanation of which lies in the fact that market theory is not being applied to the main education sector. Excess demand for education, which results from restricted admission policy at sub-optimal fee rates, gives rise to subsidiary markets in education. The mushroom growth of coaching institutions and the like is a proof of the same. Needless to stress, these sub-markets of education operate fully on the basis of market principle and are running very efficiently. The rise of these sub-markets disturbs the working of the main market — the education sector. The suppliers of education (teachers) are actually employed in the main market but they prefer to work harder in the subsidiary markets where they can dictate the price of their services. (consequently teaching in the main market — the main educational institutions, suffers). The students go voluntarily to join to the subsidiary markets and pay market prices (high fee rates) there for purchasing education, because they are sure that the service they are getting there is worth the price they are paying. That is why the subsidiary markets have not only come up, they are increasing in number and are operating on market principle and therefore are working well, and on the other hand in the main market, the operation being at less than equilibrium price and market theory not being adhered to, the efficiency from various angles has fallen down considerably.

Peace Education and International Community

(Contd. from page 1)

Illich also said in his address to Peace Research Conference at Yokohama in December 1980, "Peoples peace had protected the commons. It guarded the poor man's access to pastures and wood; it safeguarded the use of road and river by people; it reserved to widows and beggars exceptional for utilizing the environment."

Peace education develops in the minds of men that large inclusive vision of humanity through understanding and respect for differences and increase global awareness and cooperation in the ways of peace. It helps in developing an international community which will have in common science and technology, economic arrangements and political forms but it will also help the varied people of the world to develop their local customs, arts and literature to save the new civilization from monotony and destruction. And this international community will be radically different, which will be based on justice, non-oppression, non-exploitation and non-violence.

Environment and Sustainable Development

Onkar Nath Srivastava*

The National Academy of Sciences, India, by organising a national symposium on "Environment and Development : A Scientific Approach" at its 61st annual sesssion on Dec 19-20 under the auspices of Meerut University indicated the poignancy of Indian concern which the question of the promotion of sustainable, environmentally sound development in every part of the world underlines. A similar note was also struck at the seminar recently organised by the Tata Energy Research Institute on global environmental issues addressed by Maurice Strong, the Secretary General of the U.N. Conference on Environment and Development scheduled to be held in June 1992 in Brazil. At this seminar he stressed the need to help poverty alleviation in developing countries.

That development has a prime priority, particularly from the standpoint of developing countries was strongly emphasised by our discerning Prime Minister Shri P.V. Narasimha Rao at the Group of 15 meeting held at Caracas, a few weeks ago. That environmental improvement is literally a life or death matter for our planet, the Earth has been amply projected by the 1987 report of the World Commission on Environment and Development, chaired by G.H. Brundtland, the Prime Minister of Norway and the recent OECD publication,'The State of the Environment 1991'. And the view that development and environment are inseparable issues requiring the building of environmental concerns into all developmental processes, as highlighted in the 1990 report of the South Commission chaired by Dr.Julius Nyerere, formerly the President of Tanzania, has been assiduously established over the years and forms the main theme of the proposed Brazil Conference on Environment and Development,UNCED 1992. The latter, which marks a significant milestone after the 1972 Stockholm U.N. Conference on Human Environment is being heralded as a Summit on both development and the environment.

At this Summit, among the specific issues to be discussed are the relationship of economic growth,demographic pressures and changing consumption and production patterns, the working environment of the poor in urban slums and rural areas, health, trade barriers and external debt crises. It is hoped that the conference, UNCED'92 will throw adequate light on the paths enabling us to find concrete answers in the coming decades to global and social dilemmas; hence the conference has an alternative name ECO'92.

Poverty is the crux of the current problem of environment and development. Poverty both causes and results from environmental degradation. The village or the slum that lacks clean water and sanitary facilities brings misery,sickness and death. Poverty also promotes myths and wrong notions about progress and development. At the 1972 Stockholm conference a developing country spokesman remarked that "industrial smoke looks like money to me". Environmental degradation might lead to progress for developed nations, for they possess the capacity to minimise pollution and side effects, but for the developing nations it is an issue of survival.

The global economic system, as it obtains presently takes more out of a poor continent than it puts in. Under the heavy burden of debts the developing countries overuse their fragile soil, thus turning good land to desert. Each year another 6 million hectares of productive dryland turns into worthless desert. Over three decades this amounts to an area roughly as large as Saudi Arabia. Trade barriers of wealthy nations do not give reasonable price for the goods of poor nations. As a result, often the small farmers in these countries are pushed onto marginal land : too dry, lacking in nutrients, and largely uncultivable. As such, forests are cleared and productive drylands rendered barren. More than 11 hectares of forests are destroyed yearly and this, over three decades would equal an area about the size of India.

Poverty also goes hand in hand with population growth. The latter and development are linked in complex ways. Resources available for economic and social development can be used to improve education and health. These improvements along with associated social change reduce both fertility and mortality rates. But high rates of population growth in developing countries on the one hand eat into surpluses available for economic and social development thereby hindering improvements in education and health and on the other assume a size that cannot be sustained by available environmental resources. The achieving of a 'civilised population balance' as against Malthusian population balance, where a high birth rate was offset by a high death rate, would be possible only by arresting high

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**Former Joint Director, Higher Education, U.P.*

ertility rates and reducing the birth rate through motivating billions of people to take voluntary decisions n favour of adopting family planning measures. Population increase after all is simply the excess of births over deaths.

The irony in this context is that the masses in the developing world live somehow under the fallacious assumption that more people means more wealth, more power. Moreover, the assumption that countries with large tracts of uninhabited openland have no need to worry about birth rates is also fallacious for what such raw space requires first is not surplus people but surplus finances for investment. The limited national savings has to be conserved, spared, and made available for productive investment. Failing this, unwieldy population growth is bound to be intertwined with the threat of mass starvation, political chaos and violence. The problem of population is indeed an inseparable part of the larger, overall problem of development.

What has got to be realised without further loss of time is that old approaches to development and environmental protection are no longer going to hold good now. Instead of maintaining social and ecological stability they will increase instability and accentuate an environment of misery, hunger and hopelessness in at least two third of the world. A new developmental path is required – one that will sustain human progress not just in a few places for a few years but for the entire planet into a distant future. The World Commission on Environment and Development (Brundtland Commission) has in its report entitled 'Our Common Future' emphasised the concept of sustainable development. Development has to be made sustainable ensuring that it meets the needs of present without compromising the ability of future generations to meet their own needs.

Sustainable development implies imposing of limitations by the present state of technology and social organisation on environmental resources and by the ability of the biosphere to absorb the effects of human activities. The past concern implied the impact of economic growth upon the environment. The current concern implies the impact of ecological stress upon our economic prosperity. The central crisis is that of disintegration of industrial civilization which thrived on cheap energy, cheap raw materials. This subsidy, and this disproportionate sharing of resources should no longer by allowed to continue. The industrialised countries must realise that disproportionate sharing is not in their interest in the long run. Eventually, they are bound to suffer from the disappearance of rain forests in the tropics, the loss of plant and animal species, and changes in rainfall patterns. They are already facing the life-threatening challenges of toxic wastes, lethal chemicals, and acidification. Today the OECD countries are still responsible for 45% of the world CO_2 emissions, 40% of SO emissions and 50% of NO emissions – all related to human activity. They produce 60% of the world's industrial waste. In many areas, even the ground water is contaminated by nitrates and pesticides used in intensive agriculture.

It may be noted that most of the environmental problems that will arise during 1990's have a far more accentuated international dimension than before. Mention may be made of cross-border pollution, protection of the stratospheric ozone layer, potential climate changes as a result of CO_2 and other greenhouse emissions, management of regional seas, problems related to international trade.

All this calls for immediate searching for altered ways of life on the part of developed countries. They need to moderate their positions and transform themselves in tune with the obsolescence of industrial civilization. They need to help build a new developmental path of sustainable development and a new kind of economic growth. So far, economic growth was achieved at great ecological cost. We have to move from economic growth to eco-development.

It was in the fitness of things that the National Academy of Sciences organised the Symposium on Environment and Development at Meerut University with its scientist Vice-Chancellor Prof.B.B.L.Saxena, who is known for his dynamic approach to things, as its host organiser. Meerut represents an agriculture intensive area in an agricultural country. In the current life or death situation, universities and other institutions of higher education play a very significant role in building up an environmentally informed, intelligent and effective citizenry from which will flow suitable environmental action at diverse levels. There is an urgent need for integration of an environmental dimension that is environmental education, into general university education. The UNESCO-UNEP International Environmental Education Programme (IEEP) was launched in 1975 in direct response to Recommendation 96 of the Stockholm Conference. Under the framework of IEEP a consultation meeting among U.N. agencies was held in November 1990 at which stress was laid to move from awareness to action in the field of environmental education.

It is the scientists who possess the remarkable capacity to identify, assess and report on risks of irreversible damage to natural systems and threats to survival, security and well-being of the world community. Let us hope their deliberations contribute to achieving the goals of sustainable development, thereby transforming the condition from divided to united humankind, from fragmented to a consolidated world and from one earth to one world.

Teaching of English with a Creative Outlook in Indian Universities

A.K. Ghosh*
Swapan Kumar Sen**

Caesar dead was more powerful than Caesar alive. The 'Raj' dead is more powerful than the 'Raj' alive so far as the spectre of English language and literature over the Indians is concerned.

Lord Macaulay (Thomas Babington, 1800-59) after long deliberations introduced the teaching of English in India in order to produce what he called "a class of people, Indian in blood and colour, but English in taste, in opinion, in moral and in intellect". His decision was whole-heartedly supported by the then intellectuals of India who believed that through English they could enter into the realm of western thought and culture and western view of life. It would serve as a window for the emancipation of India. Even ardent patriots like Ram Mohun Roy were in the vanguard of the Anglicist Movement for "dissemination of useful knowledge of science and literature through the medium of English language".

The English were the rulers and the Indians were the ruled. The English spoke English language whereas India is a multilingual subcontinent. The British found it more convenient for the Indians to learn English rather than the British learning so many Indian languages. Hence, English became the medium of instruction in schools and colleges. English became the language of the ruling class and the elite of the Indian society. Speaking of English began to be viewed with respect. Knowledge of English became imperative for ascending the ladder of social success. But even then English always remained the official language, it could never invade the homes of even the top-notch elite society of India. Only a very few Barristers, Army Officers and I.C.S. Officers thought it clandestine not to use English even at their homes. But the culture and progress of the Indian languages did not suffer a setback. The British India saw a galaxy of poets, dramatists and novelists in different languages.

During the British period there were a few educational institutions of English medium of very high standard. The teachers were mostly Europeans. These schools were highly expensive and only the wards of Rajas, Maharajas and big-wigs could have access to them and for higher studies they went overseas to England. Speaking of vernacular languages in the premises of these institutions was treated as a serious offence and sometimes the pupils were flogged.

This reminds us of the 14th century England round about the days of Chaucer, the father of English poetry. In those days French was the official language and it occupied the same sort of prestige in England as the English language received during the 'Raj' and still continues to receive.

English in India solved the problem of communication between the ruler and the ruled and it obviously served as a unifying factor among the multilingual people of India. The learning of English helped the growth of nationalism which ultimately freed the country from the British yoke. Our national leaders drew their inspiration from the writings of the great thinkers like Ruskin, Carlyle, Lincoln and others writing in English. Interestingly, the founder of the Indian National Congress, A.O. Hume, was an Englishman.

English served as a great unifying force in our struggle for independence. It was through this language that the leaders from all corners of our vast country could assimilate their plan of action.

When the Britishers left India and India became a free independent country, Hindi was declared to be the National language of India. But the craze for English remained and it continues to gain more ground.

There is no denying the fact that study of English has enriched the Indian languages and literature. All the native languages have freely borrowed words from English and have coined words on English models to enrich their vocabulary. It may be worth-mentioning that, save Tulsidas, almost all eminent writers of India were proficient in English and they became aware of the great literary movements in England which deeply influenced their writings.

English has also greatly contributed to the growth of knowledge in India. It has brought home to us the

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different developments in the international scene and helped us in properly understanding the world situations.

The constitution of India, adopted in 1950, had envisaged English to continue for 15 years from the date of adoption of the constitution. Vehemently opposed by the Southern States, the Parliament enacted in 1963 the Official Languages Act providing for continued use of English for an indefinite period. In this connection Nehru's words are worth quoting : ".... English is likely to have an important place in the foreseeable future".

The Indian Education Commission (1964-66) also recommended the continuance of English in the interest of national integration and for higher academic work. Even our Ex-Prime Minister Morarji Desai said to the then British Prime Minister, Mr. Callaghan : "We will not deny to ourselves the practical as well as cultural benefits of familiarity with English" (*The Illustrated Weekly of India*, May 2, 1978).

The Indian Education Commission, popularly known as the Kothari Commission went to the extent of recommending that no student should be awarded a university degree unless he has acquired a proficiency of English. The Radhakrishnan Commission also held a similar view :

"English must continue to be studied ... If under sentimental urges we give up English, we would cut ourselves from the living stream of ever growing knowledge. Unable to have access to this knowledge our standards of scholarship would fast deteriorate and our participation in the world movements of thought would become negligible. Its effects would be disastrous for our political life, for living nations must move with the times and must respond quickly to the challenges of their surroundings. English is the only means of preventing our isolation from the world and we will act unwisely if we allow ourselves to be enveloped in the folds of a dark curtain of ignorance.....In the universities no student should be allowed to take a degree who does not acquire the ability to read with facility and understanding works of English authors."

But the things came to a pass as the Government has long been shaky about its language policy. We remember once, perhaps at the behest of the Govt, we heard on the Radio "Akashvani" in place of "All India Radio". But why blame the people; in a country where reorganisation of States takes place on linguistic basis, such things are just likely to happen.

Similarly, the place of English in the whole scheme of our education has been a subject of much heated debate. A foreign language, like a foreign plant, can grow with difficulty in a native soil. Study of mother tongue is like 'home, sweet home'; the other like living in a foreign country—'Among new men, strange faces, other minds". Despite all, we ardently admire English. "Shakespeare is our king; we are his subjects", exclaimed Carlyle. We also as foreigners worship Shakespeare like anything perhaps because English is an international language. Nay the English language is one of the richest languages of the world in respect of literature and culture. It contains some of the finest utterances of life and conduct. In it we have the Authorised Version of Bible, the perfection of the English language. It is the language with which Shakespeare held the "mirror upto nature" to show "Virtue her image and vice its own countenance"; this language with which Milton tried to assert eternal providence, "and justify the ways of God to man", the language through which Darwin expounded his "theory of evolution" and "struggle for existence". Through it Mill preached the gospel of 'liberty'and Bentham, the theory of "greatest good to greatest number". Through English Carlyle and Ruskin attacked the mud gods of modern civilization — materialism and asserted spiritual values. Arnold used it for the spread of "sweetness and light" and Newman for putting forward his theory of "knowledge its own end". Shaw spoke of "socialism" and Wells showed "the shape of things to come"; with it Burke carried on his campaign of "no taxation without representation" and Morley warned the bureaucracy that "bullying is no governing".

"Indian subcontinent writers of English have always been confronted with onerous choices. Inheritors of literary tradition riddled with regional and linguistic finitude, the mere choice of a proper name hopelessly parochialised their works". There is a hurdle because the unique intricacies of social life and the untranslatable nuances of conversation speech are better rendered through the medium of one's own mother tongue. We are reminded of Tagore's reminiscence inscribed in his "Jiban Smriti" that as he was born with a silver spoon in his mouth he was admitted to a very expensive English school. Every morning a European lady used to recite a couplet and all of them used to sing in a chorus. What she said he knew not. But what he said was "Kaloki, Puloku, Puloki, Melaling, Melaling, Melaling".

When he grew up, he found no such word in English dictionary. The school was still there and the lady too. The poet visited again and with attention heard what she was saying. She was reciting the same couplet. This time the poet could get at it. It ran as follows :

"Full of glee,
singing merrily, merrily, merrily"

If this be the experience of Tagore in those hey days of British Imperialism, should we shrug our shoulders and become hopeless prophets of doom and say a good-bye to the alien language called English? Should we take it for granted that an Indian can be a scholar of English but not a creative writer? Should we have reasons to believe that language has its relation with the soil, the air and the water of a country? Should we emphatically aver that if Shakespeare comes again, he would come in England only and Tagore can come only in India and nowhere else?

To answer all these, we can simply nod our heads with a negative gesture. The recent years have showed that English language and literature are no longer restricted to England. "The English language is now a house of many mansions", as Devis Lessing puts it. The growing status of the English language as the world's literary esperanto has stimulated the seeding of English on this subcontinent beyond expectation. English is no longer the foreign oppressors' language, nor is it exclusive or elitist; it has become the common property of millions of ordinary citizens. What is more satisfying is that in this decade, writers born on this subcontinent like Salman Rushdie, Hanif Kureishi, Upmanyue Chatterjee, Vikram Seth, Amitav Ghosh, Bharati Mukherjee and others have leaped into mainstream English creative world and elicited critical acclaim."

English in Indian Universities

However, it goes without saying that this is not much. What is needed at this moment is to reform the structure of study of English with a creative outlook in the Indian universities. On perusal of the syllabi of english in our universities, we would not fail to notice that they are so vauge that we cannot expect much standard and specific performance of the pupils. Rather, the whole pedagogical system tends to be incompetent.

While considering the present aspect of study of English, one is rather left with the choice — whether the Indian universities impart study of English only with a view to having workable knowledge of English and, if so, why such an extension of the same yardstick from school level to higher level is needed. Although, from time to time many of us point out that the study of literary aspects of English, especially the artistic and productive use of the language be best left to the higher stages of education where provisions be made for specialized study of English as an elective subject, yet these objectives are rarely being reached by most of the Indian universities.

Teaching at the college and university level is still restricted to the four basic language skills i.e. listening, speaking, reading and writing, more or less the same objectives to be reached at the school level. The most unfortunate aspect of teaching of English at higher level is the lack of a clear and attainable aim of teaching.

The aim of the university teaching of English should be to develop the ability to express precisely and expand an idea eloquently. In other words, we propose to incorporate a comprehensive aim for the development of creative aspect of a learner as one of the objectives of study of English at the university level.

In order to arouse the creative aspect of the personality of a learner, well thought out plans and programmes are necessary for imparting English at the college and university level. Change in outlook is necessary in almost all the spheres related to the field of study.

The Creative Urge: arousal and sustenance

The teacher may ignite the process. Seldom in a traditional class a teacher encourages students towards creative expression and possesses the idea that he is before the students to boost their creative urge as one of his teaching objectives. This awareness may be treated as of prime requisite. As a burning lamp can lit another, so a creative teacher can only inspire a potential student.

In this phase, the teacher has to remain busy exploring the students while engaged in discussion inside or outside a class and making them aware of their unnoticed ability. Though motivation plays an important role in creating a creative personality throughout the process, its thrust is very much appreciated at the beginning.

Once the urge is apparent, it is the responsibility of the teacher as also the institution to sustain it so long as the learner does not develop confidence and start creative writing and thereby gaining the pleasure of creation.

The UGC may recognise and reward for the published works of the students both at the college and the university levels. Students can be encouraged in the matter of editing and running literary magazines.

Students' participation in seminars and symposia in the presence of noted writers may boost their urge further.

The teacher's responsibility is to see that the aspirant somehow gets touch of recognition or success at least occasionally. This is important from the psychological point of view.

In fact an institution having a good tradition of producing creative students can easily sustain the urge of the freshers.

The Curriculum

Students should be provided with a graded curriculum with the assistance of resource persons and educationists. The objectives of contents are expected to be stated clearly and such objectives for the teachers' ready reference may be supplied as Handbooks.

Such a curriculum needs much experimentation until it takes a desirable shape. A first hand draft is suggested here :

The B.A. course may be devised in two parts. The first part may carry the skill of composition and the second part emphasise on providing understanding, skill and knowledge about the art of writing to help develop the creative ability of the students. The curriculum in this part should be structured to impart instruction in progressive stages so as to ensure that students assimilate information about the writer's art and develop their creative ability.

Structure may be as follows :

Part - I

1. **Vocabulary** - Introduction
    - i) Compounds - Introduction
    - ii) Prefixes in English compound words
      e.g. ex, as, un, fore
    - iii) Suffixes in compound words
      e.g. less, ness, en, er
    - iv) Noun + Noun compounds
      e.g. bedrock, carload
    - v) Adjective + Noun compounds
      e.g. bluebird, hotcase
    - vi) Verb + Noun compounds
      e.g. pick-pocket, turntable
    - vii) Compound Adverbs
      e.g. downstairs, barefoot
    - viii) Synonyms and Antonyms
    - ix) Words groups and phrases
2. **Correct use of Verbs** - Introduction
    - i) Kinds and functions of verbs
    - ii) Elements of Tenses, Tense patterns and their specific function.
    - iii) Elements of complete English sentence and basic sentence patterns.
    - iv) Infinitives, Gerunds, Participles
    - v) Concord : Subject - Verb agreement
    - vi) Grammatical Fundamentals of an English Sentence
    - vii) Role and place of the Anomalous, Finite, Auxiliaries.
3. **Clauses** - Introduction
    Relative Clauses
4. **Transformation of sentences**
    - i) Simple, Complex, Compound sentences.
    - ii) Change of Voice.
    - iii) Changing direct statement into indirect narration.
5. **Condensed Expression**
    - i) One word substitution.
    - ii) Making a sentence simple with one main verb.
    - iii) Condensing a sentence by avoiding unnecessary words, repetitions and long idiomatic expressions.
6. **Various language concepts**
    - i) Specifics of the Articles : Position, Repetition, Omission and Substitution.
    - ii) Capitalization and Punctuation.
7. **The English Composition**
    Aim, Choice, Planning, Content, Style, Originality and other requisite qualities of an impressive composition.
8. **The Paragraph**
    Unity, Coherence, Variety, Length, Emphasis, Expansion, Transition etc.
9. **Essay Writing**
    - i) Definition, Preparation, Arrangement, Form etc.
    - ii) Kinds, Characteristics, Patterns, Methods and Procedures.
10. **Letter Writing**
    - i) Requirements, Parts, Functions, Distinguishing

features, Qualitative Improvement etc.

ii) Kinds, Replies, Rejoinders, Emotional, Social and Psychological Aspects, what to include and avoid.

11. **Precis Writing**

i) Comprehension.

ii) Cutting out repetitions, illustrations, quotations, anecdotes, metaphors etc.

iii) Discriminating between language of precis and the telegraphic language.

12. **Official Drafting, Report writing and Minute writing.**

Upto this stage a practical command of the non-literary English is what we may reasonably expect. Further, literature cannot be properly appreciated without an adequate command of the everyday language. To quote L.A.Hill :

"A student cannot appreciate the distinctive qualities of the poetic style of a foreign language, unless he has a thorough grounding in the everyday language". (Selected Articles on Teaching of English as a Foreign language)

It is imperative that the skill of composition during Part I may be well imparted through the modern approach of composition and grammar teaching instead of adhering to the conventional pattern.

In the phase of providing a proper base to the aspirant, the teacher should, therefore, confirm that the students reach the above norm because the artistic use of language is impracticable without such a base.

PART -II

1. The Art of Creative Writing — Creativity, Imagination and Experience.
2. The Aesthetics, Kinds, Nature, Scope, History and Technique of Creative Writing.
3. The Process and Pleasure of Creative Writing.
4. Literature, Man & Society, Creativity and Literature as Aids to Understanding Life and the World.
5. How to Write a Short Story : Nature, Kinds and Methods.
6. Introduction to Novel and Drama.
7. The Novel : Nature, Kinds, Scope and History.
8. The Novel as Contemporary History of Its Age, Society and World. Novel as an Effective Instrument of Social Criticism, Change and Reform.
9. The Place and Importance of the Novel in the Modern Age. English Fiction. Writing in India. Some Eminent English novelists and their works.
10. The Writing of Poems, Poetry : Nature, Kinds and History. The Creative Power of Poetry and its Importance in Man's Life.
11. Essential Features of Poetry Writing. Forms and Structure of Poetry. Language, Imagery, Sound, Music and its Artistic value.
12. Trends in Modern Poetry. English Poetry by Indian Poets.
13. Writing of Children's Literature : Nature, Scope, Kinds and History.
14. Essential Features, Academic and Technical Aspects of Writing Children's Literature. Some Important Writers, their Ideas and works.
15. Writing for Radio, Television and Films.
16. Writing for Women's Magazines. Other kinds of writing for Specific Areas and Groups.
17. Writing of Biography and Autobiography.
18. Writing of Literary Prose : Features, Articles and Essays.
19. Report Writing, Writing of Official Documents, Writing for Newspapers and Magazines.
20. Writing for Symposia, Seminars and Conferences.
21. Effective use of English Language, Literary Embellishments and Suggestivity in Creative Writing.
22. How to develop an Impressive Style in Writing.
23. Your Relation to your Writing. The Psychology of the Artist. Creative Writing develops a Powerful personality.
24. Creative Writing as a Career. Hints Towards the Writer's Discipline, Art and Techniques.

Co-curricular activities

To aid imparting creative outlook some co-curricular activities like debates, extempore speeches, dreams, western music, recitation, publication of magazines and other literary activities can be made to run parallel to the curricular activities.

Organization of such activities should be based on the students' initiative.

The function of the teacher should be to draw out the inner splendour of the student and to expose its practical utility to the world.

Methods of teaching and learning

The success of the approach rests on the implementation phase. The teacher on the dias is expected to be conversant with the modern methods of teaching English and be trained in using sophisticated audio-visual aids. The departments should have adequate reprographic facilities, a listening centre and video play back facilities.

Orientation for teachers to familiarise them with new methodologies and recent findings on creativity be done at intervals.

It is commonly believed that to a creative person, success in creative teaching becomes much easier. As such, the teacher should have a prior idea of implementation of the whole syllabus. In this context, content analysis of the syllabus should be emphasised. The content analysis will reveal the nature of audio-visual aids required as well as their place of use. The teachers' role and the use of aids should be so planned that it may motivate the students in a lively classroom situation.

The students should be provided with training in using reference materials, like dictionaries, journals, periodicals, newspapers, encyclopeadia etc. The system of cataloguing in libraries should be made known to them.

Encouraging extensive reading in the subject may be treated as a part of the methodology. Selected supplementary reading materials should be made easily available.

Reading biographies, autobiographies, letters of the prominent writers while studying their works will help the students considerably in achieving the objectives.

Further, they may be encouraged to study the works of Indian writers in English as also in other native languages.

Besides comparing different styles of writing of famous writers, the teacher may refer to many a minor thing such as the modern art of theatre, drama, advertisement etc. to help students in developing their own style of writing.

Presentation of famous English dramas in video cassettes with illustrative comments from the teachers' end will deepen comprehension and sensitivity of the students.

The English way of life, thinking, religion, belief and culture can be better understood and realised if opportunity to enjoy English classics in presence of the teacher over films, specially edited for the purpose is made. The national electronic media assisted by the UGC can help teachers most in their honest endeavour to impart creativity.

The teacher's ability to recite the English classics may be considered to be conducive to the process of implementation.

Criticism, appreciation and expression of free thinking should be made spontaneous while the teacher discusses in small groups of students.

In brief, the responsibility of giving life touch – the creative dimension, to the process of learning English is an intricate task for the teacher. Knowledge of the subject and modern methodology may not be sufficient in reaching the goals without the aid of teachers' imaginative faculty and sound presentation.

Evaluation

Naturally the process of evaluation – the assessment part should not be to follow the conventional one. Students are to be rated in terms of their academic and creative achievements.

The process of evaluation should be spread all over the session and consist of a number of Unit Tests specially designed for measuring knowledge and skill of the learners covering the syllabus. The Unit Tests need to be framed keeping in view the objectives of study and weightage of the contents. These tests are meant to assess achievement in curricular sphere.

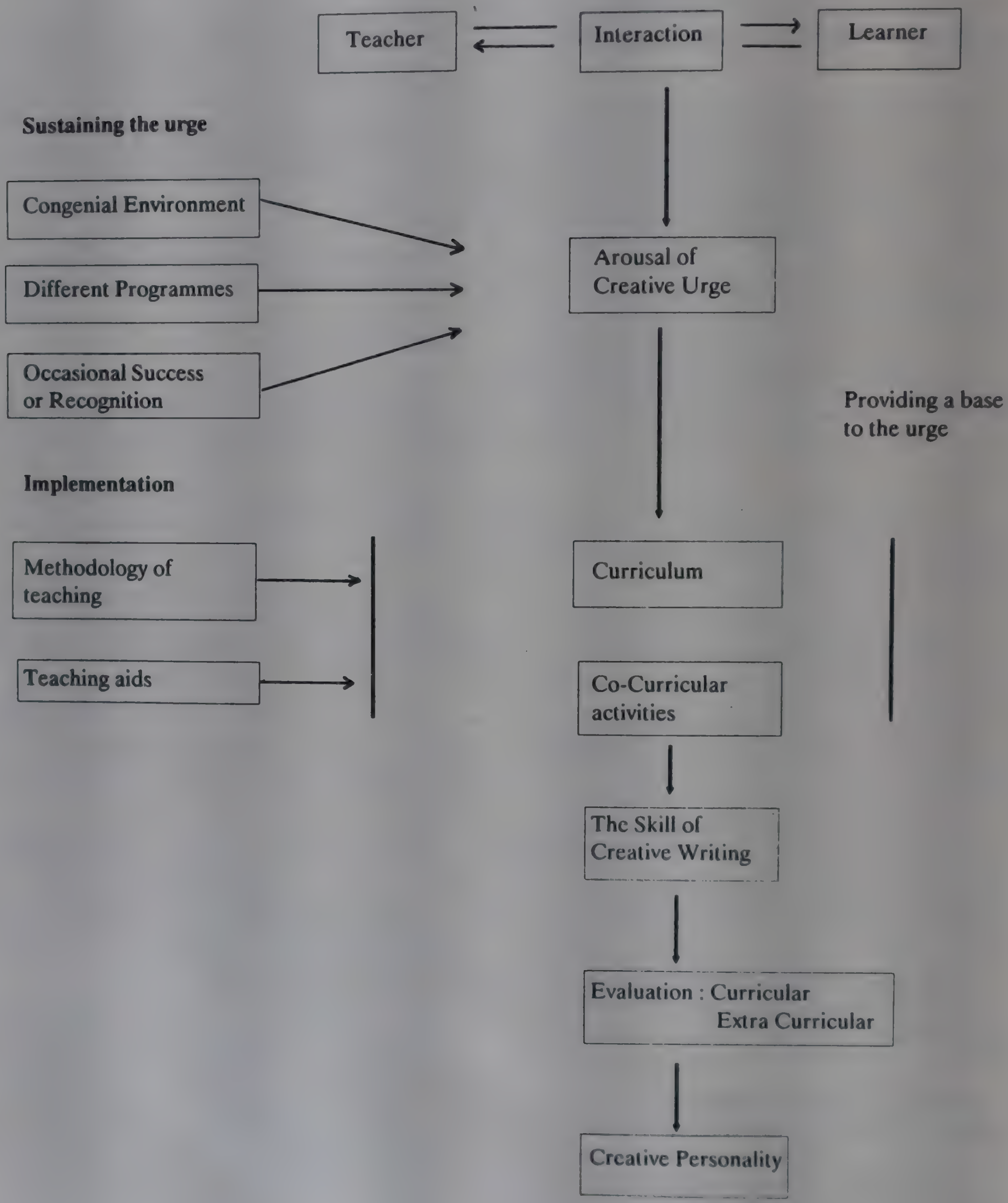
An experienced body of teachers may be entrusted with the task of assessment of students creative achievement during the session within and outside the institution.

Further, in the Evaluation Phase, we may stress the importance of oral examination which will not allow the teacher and the pupils at large any convenient excuse to ignore this vital aspect of language learning.

So far as the pattern of question for examination in English is concerned, it is desirable to have well planned oral tests, objective type questions together with a generous measure of short answer and essay type tests, for these alone can help test the integrated language skill and creative potential.

The aforesaid ideas with a view to imparting creative English in Indian Universities may help inculcate a new self-confidence and a parallel proficiency in English and bring about a change in perception of the subcontinent throughout the globe. Let India "no longer by conceived of as some exotic Himalayan bloom, enmeshed in thorns and mettles, crying to be rescued; let it be a churning, seething mass of humanity, venturing out, and getting its voice heard". In India Britannica Geoffrey Moorhouse relates how "they (the Anglicizers as opposed to the orientalists during the debate on the topic during Governor-General Bentinck's time) looked to the day when English would not just be the talent of a highly qualified elite, 'but with the vernaculars', the native language of the whole sub-continent". It is high time that through the management of study of English with a creative outlook in our universities the dreams of Macauley and Trevelyan be realized to fact.

The Model


Teacher
Interaction
Learner
Sustaining the urge
Congenial Environment
Different Programmes
Occasional Success or Recognition
Arousal of Creative Urge
Providing a base to the urge
Implementation
Methodology of teaching
Teaching aids
Curriculum
Co-Curricular activities
The Skill of Creative Writing
Evaluation : Curricular
Extra Curricular
Creative Personality

PU CONVOCATION

The Governor of Gujarat, Dr. Sarup Singh, called for a "cultural revolution" to begin in the country's universities to combat a new culture which permitted and encouraged "manipulations for personal benefits". It was for these institutions of learning to stop the alarming erosion of both public and private morality. He was delivering the convocation address at Panjab University's 42nd convocation held in Chandigarh recently.

Dr Sarup Singh said universities had always been regarded as places where "character was formed, attitudes were shaped and minds enriched". Today things had changed. A new "manipulative" culture was emerging, which the universities had to combat. He blamed the politicians for a major part of the decline in the academic standards of the universities. Every time political considerations had the better of decision-making, academic process degenerated. It was time the government stopped putting "inferior people in positions of leadership due to caste and communal reasons," he added.

The nation would be in peril where badly educated men and women with "low culture" and "narrow outlook" became guardians and rulers of the country.

He wondered why young teachers did not "enjoy" teaching. A teacher must feel "committed" to the profession and not make teaching a "trade" worrying all the time for worldly acquisitions, more wealth and property. The perversion of values must stop.

Dr Sarup Singh said it was time the universities devoted more time to tackling the nation's major problems, like poverty. The universities must perform to produce experts in various fields, who could solve many of the problems. In a country with an under-developed economy violent movements emerged. It was, therefore, joint responsibility of all to deal with such situations.

With a new world economic order surfacing and European countries having already set examples by shedding their sovereignty and merging into one economic community, it was time India too did some introspection.

Dr Sarup Singh, who was critical of the present education system, declining academic standards and the way professors and readers were being appointed recalled his own days. He talked about his first love: teaching. He was optimistic that it were the universities alone that could "inculcate a different value-system, a value system which is distinctly superior to the prevailing attitudes and practices."

In all 705 students reported for receiving degrees. Girls outnumbered the boys. Against 266 boys there were 439 girls.

Eighty-six medals were awarded for academic excellence with the girls bagging 70.

The Vice-Chancellor, Dr T.N. Kapoor, gave away the degrees.

New Bldg. for EMRC,Pune

UGC Chairman Prof.G.Ram Reddy said in Pune recently that the country-wide classroom programmes of the UGC were a "powerful tool", and should be extensively used for higher education purposes in the country. He was inaugurating UGC's 4th video competition, 1991,and the new studio building of the Educational Media Research Centre (EMRC),Pune. Prof. Ram Reddy said "to have a larger number of programmes with uniform better quality, new technologies should be integrated and this was an area where the country-wide classroom programmes had an important role to play".

Referring to the controversy about the television being a "good teacher", he said the educational system should use the television to reach students scattered all over the country with the institutions having an access to various EMRC programmes.

Since the viewers of UGC programmes included both students and non-students, Prof. Ram Reddy cautioned the EMRC to be "extremely careful" in updating and producing case studies in their programmes.

Terming the expenditure of about Rs.1 lakh per programme as "nothing", Prof.Ram Reddy said the "spread effect" of the programmes was enormous and students in mofussil areas were the greatest beneficiaries.

He lauded the efforts of the University of Poona and said if the introduction of automation in the university offices proved successful,such projects could be taken up elsewhere also.

In his address, Director of the UGC's Inter-university Consortium of Educational Communication (IUCEC), Mr. Kiran Karnik, said there were plans afoot to begin the countrywide classroom programmes in Hindi by next year , to be followed by other regional languages especially in programmes related to humanities and literature.

With "structural changes" in the country's media scene, Mr. Karnik hoped that there would be separate channels on the television and the radio for the broadcast of educational television programmes.

Opening up the media scene for privatisation, Mr. Karnik said, should not mean"commercialisation and marketisation" but the need of "education for development"should be recognized.

Prof. E.V. Chitnis, Consultant, UGC, said involvement of students was essential to produce work of higher quality and called upon the EMRC, Pune, to utilise the services of academicians and other eminent persons in the State in making their programmes. The video competition was introduced to inculcate the spirit of competition in producing improved quality programmes, he added.

The Director, EMRC, Pune, Prof. Arun Nigavekar, said the new studio built at a cost of about Rs1.3 crore would house sophisticated equipment acquired from the Overseas Development Agency (ODA) of the British Council. The University of Poona Vice-Chancellor, Dr. S.C.Gupte,presided over the function.

Qualitative Methods in Health Research

The Tata Institute of Social Sciences recently hosted a workshop entitled, "Trainers' Workshop on Qualitative Methods in Health Research". Sponsored by the Ford Foundation and the Johns Hopkins University, the workshop brought together a number of university department heads, professors and researchers of institutes concerned with medical anthropology, medical sociology and research methodology.

During the course of the workshop participants were exposed to a number of recent developments and new concepts in qualitative research with special emphasis on research in women's reproductive health. Theoretical sessions emphasised the contextual nature of qualitative data and the need to investigate local terminology and local systems of classificationfor example, how a community orders or ranks certain illnesses, what symptoms are associated and what patterns of treatment occur. A variety of qualitative research methodologies were presented, ranging from unstructured conversational interviews with key informants to specialized interviewing techniques which involve life histories or case studies to systematic techniques requiring the use of micro-computers. Some of the research and service activities presently being conducted by groups in the Women's Health Network in India were presented, and the Baroda Citizen's Council (BCC) presented its intervention-related research on women's health care. Their presentation generated much interest in the use of Anthropac and ZyIndex computer software programs to analyse and manage qualitative data.

Panel discussants shared their own experiences in using qualitative research methods or training in these methods. The participants were divided into groups to discuss and present ideas on introducing or modifying courses in medical anthropology and in research methodology. They also discussed the application and dissemination of research as well as overcoming barriers to interdisciplinary approaches in training and research. The medical anthropology group developed a draft course outline and suggested readings list as an outcome of their discussions. The group that discussed developing or modifying courses in research methods also presented a course overview, objectives and syllabus. A list of problems in encouraging an interdisciplinary approach to research and training and recommendations for overcoming them was developed by the interdisciplinary team, and a fourth team developed a list of targets and strategies for disseminating and applying research results. In addition to these concrete products, participants of the small working groups mentioned several less tangible benefits of the exercise, including the valuable experience of working in a multi-disciplinary fashion and the ability to meet others in the same field and share ideas.

Bharat Jan Vigyan Jatha-1992

We had the Bharat Jan Vigyan Jatha (BJVJ-87) in 1987, the Bharat Gyan Vigyan Jatha (BGVJ) in 1990 and the beginning of a stir in the form of a Mass Action for National Regeneration (MANAR) in 1990. The two Jathas, particularly BGVJ, helped to create the ground swell which is leading to an accelerating movement on the literacy front. AND YET

- 60% of our women are illiterate
- 45% of our people don't have safe drinking water
- 90% of our people are without proper sanitation facilities
- 49% of our people are below poverty line.

In absolute terms more Indians

suffer from the above four deprivations than citizens of any other country.

In addition, our land is losing its green cover, our soils are being lost to the sea, our rivers are full of sewage, in addition to chemical pollutants, and population still grows at 2.2% per year.

The National Organising Council (NOC) and its Central Executive Committee (CEC) proposes to organise the Bharat Jan Vigyan Jatha (BJVJ) during 1992. The BJVJ-92 is considered as one of the mobilisation phases of Mass Action for National Regeneration (MANAR). With the involvement of tens of thousands of schools, colleges, and research laboratories and universities, workers and farmers, artists and thinkers, young people and old, BJVJ-92 and continuing MANAR will attempt :

- to help generate, through example and communication, a conviction that our basic problems can be solved through a self-reliant, humane and scientific approach – and only through such an approach.
- to directly address, and alleviate, through deep intellectual and physical involvement, some of the basic problems of water, nutrition, health, environment and literacy.
- to savour, and to project, the cultural richness of this country and the developing urge of a people now ready to move on their own feet, through the content and processes of a massive multi-media adventure.
- to help transform the attitudes as also the content of knowledge and awareness of our people, including the educated elite, through study and their total involvement with the deep reality of Indian existence.

BJVJ-92 will touch the largest number of habitations in the history of Jathas. This will involve 50,000 Local Organising Committees in as many locations, 500 District Organising Committees, one for each district and State Organising Committees for all the States and Union Territories of India. A National Organising Council with Prof. Yash Pal (former Chairman, UGC), as Chairperson, and several State Committees have already been set up. Taking the penumbra effect of these intensive activities, it is expected that about 200,000 locations would be involved, perhaps a third of our population.

The software for communication, which is central to a Jatha activity, would be prepared by States and districts, with some at the centre. Local idiom would be used and local folk artists and communicators would be involved. In addition to communication activities related to people's science, self-reliance and understanding of the environment, it is expected that participants will physically and intellectually engage with the problems of locations where they work. The attempt would be to leave a better physical infrastructure and skills, in addition to an organisational structure for continual involvement in all the locations which the Jatha intimately touches.

BJVJ-92 has chosen a few broad themes for its emphasis and action. The main message of all the activities would be community action and self-reliance. Also, in all our interaction the central role of literacy, including scientific literacy would be kept in view. The six broad themes would be : (1) Health and Nutrition, (2) Sanitation and Hygiene, (3) Water, (4) Environment, (5) Superstitions and scientific thinking, and (6) Technology for people.

The following programme has been envisaged for BJVJ-92 :

Pre-Jatha activities: August 15, 1992 – October 1,1992

Main-Jatha activities: October 2, 1992 – Nov.7, 1992

Post-Jatha activities: Nov. 8, 1992 – Feb.28, 1993

and to continue thereafter as part of MANAR.

A large number of voluntary agencies in people's science field are already a part of this effort and are represented on the National Organising Council. Schools, colleges and universities are invited to make BJVJ-92-MANAR as a part of their programme. Students, teachers and office employees are all invited. So are the social and physical scientists and engineers in various national and State agencies. Retired teachers, workers and defence personnel are all welcome to participate in this adventure. Also part-time workers, house-wives, women's organisations, trade unions and kisan sabhas. The objectives have a meaning for all of us.

For further details, communicate to : National Organising Council, Bharat Jan Vigyan Jatha-92, C/o Vigyan Prasar, Technology Bhawan, New Mehrauli Road, New Delhi-110 016.

Violence & Modernity

Addressing a seminar on "The sources of violence in the theory of modernity," at the Department of Sociology, Lucknow University, Professor G.Ram Reddy, Chairman, UGC, pointed out that one of the main reasons for the increasing violence in society was the easy availability of arms. "The weapon factories are international manufacturers of death," he said. He dwelt at length on the various types of violence like individual violence, and group violence or terrorism. "We need to analyse and make a detailed study of violence in the present day context before endeavouring to seek an end to the menace," he said.

About 100 social scientists, scholars and experts in various fields from within the country and abroad participated in the three-day seminar. They participated in the discussions and presented papers on various aspects of the issue.

Professor Peter Maddock, from Australia who is currently working on his thesis in Gujarat said: "I feel that the exam system has no place in the study of Sociology. There should be more emphasis on essays and assignments. Moreover, I feel that there is a lot of scope for indepth village level analysis of society here. The Indian villages are still interpreted from a Brahmanical point of view. There is a great deal of ignorance of Indian villages among the urbanites."

Professor Maddock is doing research on "Ahimsa and the relevance of Gandhi's teachings in the present-day Porbander".

Professor A.C. Sinha from the North-Eastern Hill University in Shilong while speaking on "Ethnicity and insurgency in Nagaland" felt that Sociology makes a detached, objective analysis of social problems. But he contradicted the view that this branch of study was merely theoretical with little practical relevance and said : "There is a branch of the science termed Action Sociology. For instance, students in this field may interact with a certain labour group and even while analysing their social pattern seek to evolve answers to their problems and help them achieve their target goals".

Professor K. Sharma from the Department of Sociology, Panjab University, made a point about the present-day Indian society. He said: "The violence in India today may be traced to the fact that we have lost our roots but are unable to find new moorings. In short, we are in limbo and the confusion and frustration mounts daily."

Regarding the problems faced by sociology students he said that the use of Hindi as medium of instruction posed certain problems for the students of Sociology. "The best literature on the subject is in English and there are few publications in Hindi and hardly any translated books".

Professor Ulrich Briefs, an MP from Germany and a professor in Computer Science too, was among the participants. He said: "We are conducting a course on computer and society, and this seminar, I felt, was quite relevant in order to have an understanding of the societal framework of India". He felt that theoretical study of Sociology was as important as practical application.

He said that India's contribution to modern Indian history as regards the concept of non-violence and Ahimsa was of considerable consequence and that a sound topic for theoretical research would be the relevance of non-violence and Ahimsa in the present-day India.

Liaison with Royal Colleges

The National Board of Examinations in Medical Sciences (NBE) is trying to establish better liaison with the Royal Colleges of Medicine in the U.K. Some of the areas in which the Board and the Royal Colleges would interact are in the exchange of examiners, and transfer of techniques of teaching and training. This was revealed by Dr. B. Ramamurthi, President of the Board in Madras recently while inaugurating the 35th All India Obstetric and Gynaecological Congress organised by the Federation of Obstetric and Gynaecological Societies of India (FOGSI).

Dr. Ramamurthi, however, regretted that medical professionals in the country did not have pride in their achievements. "You are not ensuring the leadership role in our part of the world. You should be able to attract trainees from the neighbouring countries", he added.

He said the Board was also trying to establish better relationship with the neighbouring countries with regard to exchange of medical students and trainees so that India's intellectual eminence in this part of the world could be re-established. He wanted the Federation to nominate some persons to the speciality board of the NBE.

Dr. B. Palaniappan, who took over as president of the FOGSI, emphasised the need for overhauling the postgraduate medical education. A panel had to be formed to discuss and decide the curriculum, teaching machinery and methods.

He referred to the advances in medical science and said with the use of computers and artificial intelligence technique, an expert system was being introduced for foetal assessment.

Encyclopaedia of Hinduism

An Encyclopaedia of Hinduism in 20 volumes, covering the quintessence of Hindu thinking and practice spread over 5000 years, is reportedly being brought out by the Hindu Heritage Research Foundation.

According to the foundation chairman, Swami Chidananda Saraswati, the encyclopaedia would be published in all languages. It would be of immense value for research scholars as it would cover all aspects of Hinduism comprehensively.

The encyclopaedia, which would be edited by Dr K.L. Seshagiri Rao of the department of religious studies, University of Virginia, USA, would give an insight into the values and spiritual discipline of Hinduism, Swami Chidananda said.

The foundation also proposed to bring out a separate book on "essence of Hinduism" for children and adults, written in simple style explaining the various facets of Hinduism, he said adding that it would initially be published in English, Hindi and Gujarati and subsequently in other languages.

Diploma Course in Industrial Safety

The Madhya Pradesh Government proposes to start a new one-year diploma course in industrial safety to improve safety management in the industries of the State. The Bhopal-based Disaster Management Institute is reported to have been entrusted to conduct the diploma course.

According to new provision made in the Madhya Pradesh (M.P.) factory rules, only persons having a diploma in industrial safety could be appointed as safety officers in the industries. This diploma course has now been made an essential qualification for the recruitment of the safety officers.

Plant Quarantine Authority

The Central Government has recognised the Himachal Pradesh Krishi Vishwavidyalaya as the plant quarantine authority for Himachal Pradesh. It will have the power to certify as disease free the plants, seeds, flowers, cuttings and other material to be exported out of the State.

Krishi Vigyan Kendra

The Indian Council of Agricultural Research has approved the proposal to set up a "Krishi Vigyan Kendra" (KVK) in Hamirpur under the jurisdiction of the Himachal Pradesh Krishi Vishwavidyalaya. The Kendra will be set up near Nadaun. The university has also proposed to establish a KVK each at Una and Kangra.

News from UGC

Countrywide Classroom Programme

Between 13th January to 22nd January 1992 the following schedule of telecast on higher education through INSAT-1D under the auspices of the University Grants Commission will be observed. The programme is presented in two sets of one hour duration each every day from 1.00 p.m. to 2.00 p.m. and 4.00 p.m. to 5.00 p.m. The programme is available on the TV Network throughout the country.

1st Transmission

1.00 p.m. to 2.00 p.m.

13.1.92

"Remote Sensing-XIX: Remote Sensing for National Development"

"Management-II: Management Functions"

"The Challenge of Oceans"

14.1.92

"The Elements of Group IV and their compounds"

"Banking:The Scene Today"

15.1.92

"The Story of Car-I"

"Mohenjodaro"

"Rhizoscope: Automatic Endoscopy for study of Roots"

16.1.92

"Single Tuned Amplifier"

"Celebration of Spring-II"

"All my sons:Critical Appreciation-II"

17.1.92

"Quasi Crystals – Beyond Conventional Symmetry"

"Childhood Disabilities-I Prepatal Causes'

"Clean Air – Healthy Living"

18.1.92

"Painting:An Introduction"

"The Young Goethe"

"Week Ahead"

19.1.92

No Telecast

20.1.92

"Remote Sensing-XX: IRS System"

"Management-III: Management Principles"

"The Sight of Sounds"

21.1.92

"Lab Safety"

"The Beginning of a new movement"

"Rabies, 100 years after Pasteur"

22.1.92

"The Story of Car-II"

"Stress without Duress"

"Male Reproductive Physiology"

IInd Transmission

4.00 p.m. to 5.00 p.m.

13.1.92

"Remote Sensing-XV:

Principles of Image Analysis"

"Rendz-vous at Depth 4,400 mts."

14.1.92

"Ways of Thinking-SEP III:

World of Waves"

"Volumes of Reacting Gases"

"The Laser"

15.1.92

"Sand Replacement Method"

"Pages from History: The Egyptian Mummy"

"Cardio Pulmonary Resuscitation"

16.1.92

"Programming in PASCAL Language-III"

"Moving Pictures in Anthropology"

"Byron..Byron..Byron-II"

17.1.92

"Vedic Mathematics-VI

Divisions by Nikhilam Sutra"

"The life style in the eye of a Greek Philosopher"

"Man & Nature"

18.1.92

"Rabindra Sangeet-III"

"Telugu Yakshaganam"

"Weekly Programme"

19.1.92

No Telecast

20.1.92

"Remote Sensing-XVI:

Applications of Remote Sensing-I"

"Importance of Foreign Exchange"

"Harvest"

21.1.92

"Ways of Thinking SEP-IV:

Sphere of Sound"

"Using the Heat of Combustion Apparatus"

"Leprosy; A Much Misunderstood Disease"

22.1.92

"C.B.R. Test"

"Muddle Fuddle"

"Of Course I have Problems"

News from Abroad

World Congress for Rural Sociology

The 8th World Congress for Rural Sociology will be held on August 11-16, 1992, at Pennsylvania State University, Pennsylvania, USA. The Congress will be sponsored by the International Rural Sociology Association.

The theme of the World Congress will be Rural Society in Changing World Order. Plenary and thematic sessions will seek to stimulate creative research on rural and agrarian policy, particularly as related to the expansion of multi-national systems, and to contribute to a new cosmopolitan understanding of poverty, weakness and ecological breakdown in contemporary rural society."

The Congress would be followed by the 55th Annual Meeting of the Rural Sociological Society to be held at the same venue on August 16-19, 1992. The meeting will focus on Rurality and the Global Environment.

Further enquiries with regard to participation, etc. may be addressed to the Pennsylvania State University, 306, Agricultural Administration Building, University Park, Pennsylvania-16802 U.S.A.

COUNCIL OF SCIENTIFIC AND INDUSTRIAL RESEARCH

(Human Resource Development Group)

Advertisement No. SRF/RA-EMR.1/92(Ist)

This is to bring to the attention of all concerned that CSIR has invited applications for awarding Senior Research Fellowships and Research Associateships vide an **advertisement appearing in 11th January, 1992 issue of Employment News.** Eligibility conditions and application proforma are published along with the advertisement. The application form may be cut out or copied from advertisement and used. Indians presently abroad can also apply.

The last date of receiving applications is **28th February, 1992.** The application duly completed in all respects should be sent to the **Under Secretary, Extramural Research Division, Human Resource Development Group, CSIR Complex, Dr. K.S. Krishnan Marg, Pusa, N.P.L. Campus, New Delhi-110012.**

AIU Library & Documentation Services

One of the important functions of the Association of Indian Universities is to act as a clearing house of information on higher education in the country. Towards this end the AIU Library is engaged in collection building and developing instruments for the dissemination of research information. Over the years a valuable collection of books and documents on different aspects of higher education has been acquired.

The library has also developed Bibliography of Doctoral Dissertations as an effective tool in the dissemination of research information. Retrospective bibliographies covering the period 1857-1970 and 1970-75 were the first to appear. Effective 1975, however, the bibliography is issued annually in two volumes. One volume deals with Natural and Applied Sciences while the other records doctoral degrees awarded in Social Sciences and the Humanities. In addition to the normal bibliographical details like the name of the Research Scholar, the title of the thesis, years of registration for and award of the degree, and the name of the University accepting the thesis for award of a doctoral degree, the bibliography also gives name and complete address of the supervising teacher and an availability note that seeks to inform whether a copy of the dissertation is available for consultation and use in the University Library/Department or Registrar's Office.

The columns 'Theses of the Month' and 'Research in Progress' are intended to cut out the time lag between the receipt of information and its inclusion in the bibliography. Such universities as are not sending us regular information in respect of doctoral theses accepted and research scholars enrolled are welcome to make use of these columns.

The library also receives about a 100 periodical titles on higher education. All these are indexed regularly and a select list appears every month as 'Current Documentation in Education'. Similarly the column 'Education News Index' reports editorials and articles on higher education published in over 20 newspapers that are received in the library from all over the country.

The Library is open from 9.00 a.m. to 5.30 p.m. Monday through Friday.

RESEARCH IN PROGRESS

A list of Research Scholars registered for Doctoral Degrees in Indian Universities

PHYSICAL SCIENCES

Mathematics

1. Anil Kumar, V **Algebraic coding theory.** Kerala. Dr V Sathyabhama, Prof, Department of Mathematics, University of Kerala, Kariavattom.

2. Jha, Vijay. **The Stickelberger ideal in the spirit of Kummer with application to the first case of Fermat's last theorem.** Panjab. Prof I S Luthar, Department of Mathematics, Panjab University, Chandigarh.

Physics

1. Aprajita. **Field theory at finite temperature and its applications.** Delhi. Dr J D Anand, Department of Physics, University of Delhi, Delhi and Dr V K Gupta, Department of Physics, University of Delhi, Delhi.

2. Deswal, Rajani. **Positron annihilation in condensed media.** Delhi. Prof P C Jain and Dr Shahnawaz.

3. Sharma, Nivedita. **Quantum aspects of hydrogen diffusion in metals and alloys.** Panjab. Prof Satya Prakash, Department of Physics, Panjab University, Chandigarh.

4. Shukla, Rajni Premnath. **Electrical and photoelectrical properties of some amorphous and polycrystalline semiconductors.** Panjab. Dr K K Srivastava, Department of Physics, Panjab University, Chandigarh.

5. Sidana, Gurpreet Kaur. **Non-leptonic weak decays of heavy hadrons.** Panjab. Prof M P Khanna, Department of Physics, Panjab University, Chandigarh.

6. Uppal, Taruni. **Weak interactions in heavy flavour hadrons.** Panjab. Prof M P Khanna, Department of Physics, Panjab University, Chandigarh and Dr R C Verma, Department of Physics, Panjab University, Chandigarh.

Chemistry

1. Chakravarty, Ketaki. **Enzyme catalytic studies in reverse micelles.** Delhi. Dr Amarnath Maitra, Department of Chemistry, University of Delhi, Delhi.

2. Dave, Ashish. **Synthesis characterisation and ion exchange application of oxides and hydrous oxides of group IV and group V elements.** H S Gour. Dr O P Shrivastava.

3. Gujral, Gurjeet. **Photochemistry of some amino and styryl carbonyl compounds.** Panjab. Prof S V Kessar, Department of Chemistry, Panjab University, Chandigarh.

4. Jain, Ranjana. **Studies on some ternary complexes involving O N S donar ligands .** H S Gour. Prof P C Saxena.

5. Jain, Jyoti. **Synthesis of some new biologically active heterocyclic compounds.** Dr S K Shrivastava.

6. Jha, Brajesh Kumar. **Biophysical chemistry.** Delhi. Dr N V R Rao, Department of Chemistry, University of Delhi, Delhi and Prof N Atreyi, Department of Chemistry, University of Delhi, Delhi.

7. Kamal Nain Singh. **Development of new methodology for generation of benzynes and aza carbanions.** Panjab. Prof S V Kessar, Department of Chemistry, Panjab University, Chandigarh.

8. Kar, Pravin Kumar. **Corrosion inhibition of mild steel.** Delhi. Prof Gurmeet Singh, Reader, Department of Chemistry, University of Delhi, Delhi.

9. Katyal, Narender Kumar. **Effect of some dopants on the kinetics of formation and hydration of tricalcium silicate phase.** Panjab. Prof Ram Parkash, Department of Chemistry, Panjab University, Chandigarh and Dr Subhash C Ahluwalia, Scientist, National Council for Cement & Building Materials, M-10, South Extension-II, Ring Road, New Delhi.

10. Kaushal, Jyotsna. **Reactivity of mixed silyl stannyl hydrazides.** Panjab. Prof S K Vashisht, Department of Chemistry, Panjab University, Chandigarh.

11. Khan, Firoz. **Voltammetric study of some selected metals and selected ligands.** H S Gour. Dr Farid Khan.

12. Khandekar, Kamlesh. **Coordination chemistry of lanthanoides in solutions.** H S Gour. Prof M C Saxena and Dr S N Limaye.

13. Kesharwani, Rachana. **Studies on some life essential transition metal complexes of drugs.** H S Gour. Dr (Smt) Pramila Singh.

14. Lohokare, Vinod K. **Co-ordination chemistry of some lanthanoids.** HS Gour. Prof M C Saxena and Dr S N Limaye.

15. Mehta, Anatha. **Polymer based electrochemical rechargeable batteries.** H S Gour. Dr K N Mitre and Dr N R Gautam.

16. Mishra, Manju. **Structural investigations on potential antitumour sesquiterpenoidal lactones from some Xanthium plants.** HS Gour. Prof V K Saxena.

17. Nalwe, Kriti. **Synthesis of some new heterocyclic compounds and to evaluate their biological activity.** H S Gour. Dr S K Shrivastava.

18. Saxena, Rashmi. **Chemical and biological activity studies of plant products and synthesised organic compounds.** HS Gour. Dr J T Rao.

19. Saxena, Sanjay Kumar. **Synthesis, characterisation and cation exchange applications of synthetic silicate minerals.** HS Gour. Dr O P Shrivastava.

20. Shrivastava, Preeti. **Structural investigations on antiviral 3-methoxy flavonoidal constituents from some Rutaceae species.** H S Gour. Prof V K Saxena.

21. Shukla, Yogendra Kumar. **Synthesis of some new biologically active compounds derived from heterocyclic ring.** H S Gour Dr (Mrs) Savitri Devi Shrivastava.

22. Soni, Prashant Kumar. **Study of mixed ligands complexes of some transition metals and selected ligands.** H S Gour. Dr Farid Khan.

23. Soni, Usha. **Study of voltammetric behaviour of some organic compounds and their applications to the analysis of some plant products and biological fluids.** H S Gour. Dr K S Pitre.

24. Taneja, Vinita. **The chemistry of natural products.** Delhi. Dr S C Jain, Department of Chemistry, University of Delhi, Delhi.

25. Tiwari, Vivek Kumar. **Synthesis and characterisation studies of some nickel and copper complexes.** H S Gour. Dr A P Mishra.

26. Upadhyaya, Rajeev Kumar. **Synthesis of some novel compounds derived from heterocyclic ring and to evaluate their biological activity.** HS Gour. Dr (Mrs) Savitri D Shrivastava.

27. Verma, Taruna. **Study of ion exchange and selective properties of layered silicate minerals of tobermonite, xonotlite and jennite group.** H S Gour. Dr O P Shrivastava.

Earth Sciences

1. Dani, Samrat. **Geochemical and geotechnical investigations for the exploration of hydrocarbons and assessment of pollution due to drilling in Himalayan foothills, India.** Panjab. Prof A K Prasad, Department of Geology, Panjab University, Chandigarh.

2. Kulshreshtha, Shelander Kumar. **Micropalaeontological assessment of Bagh beds in the type area.** Panjab. Dr R Y Singh, Department of Geology, Panjab University, Chandigarh and Dr S K Kulshreshtha, Department of Geology, Panjab University, Chandigarh.

3. Pradeep Kumar, A P. **Controls of metamorphism and rock forming processes in the formation of cali-silicate rocks of Ambasamudram, Tamil Nadu State, India.** Kerala. Shri R Krishnanath, Reader, Department of Geology, University of Kerala, Kariavattom.

Engineering & Technology

1. Khanna, Sukhvarsha. **Impact of decentralised energy programme on rural household sector.** Panjab. Prof S K Sharma, Honorary Director, Energy Research Centre, Panjab University, Chandigarh.

BIOLOGICAL SCIENCES

Forensic Sciences

1. Sodhiya, Akhalesh Kumar. **Histopathological and histochemical studies of Cannabis sativa drug abuse.** H S Gour. Dr H S Maheshwari and Dr S K Jain.

Anthropology

1. Sodhi, Lavina. **Mixed longitudinal study of physical growth and sexual maturity of Punjabi adolescent girls with reference to socio-economic variations.** Panjab. Prof J C Sharma, Department of Anthropology, Panjab University, Chandigarh.

Biochemistry

1. Moza, Nalini. **Characterization of bioactive synthetic/isolated substances from Indian traditional plants.** Panjab. Dr (Mrs) A Kapil, Scientist, Pharmacology Division, Regional Research Laboratory, Jammu and Dr Rajeshwar Sharma, Department of Biochemistry, Panjab University, Chandigarh.

Zoology

1. Arasta, Tazeen. **Effect of pesticide on a teleost fish, Mystus vittatus with reference to biochemical studies.** H S Gour. Dr V S Bais.

2. Baby, Johnson. **Intermediary metabolism in teleost fish regulation by hormones.** Kerala. Dr Oommen V Oommen, Department of Zoology, University of Kerala, Kariavattom.

3. Mohan, K G. **Insect vitellogenic precursors and their endocrine modulation.** Kerala. Dr D Muraleedharan, Department of Zoology, University of Kerala, Kariavattom.

4. Nirala, Opender Paul Singh. **Taxonomic studies on the Muscidae of North West India with special reference to their male and female genitalia (Calyptrata: Diptera).** Panjab. Prof H B Pajni, Department of Zoology, Panjab University, Chandigarh.

5. Vasanthakumari Devi, S. **Studies on the bionomics of Armigeres species (Culicidae: Insecta).** Kerala. Dr R S Prasad, Department of Zoology, University of Kerala, Kariavattom.

Medical Sciences

1. Bhatia, Sangeeta. **Synthesis and ONS-depressant profile of halophenyl indoles.** Delhi. Prof A Kar, College of Pharmacy, Pushp Vihar, New Delhi and Prof M S Y Khan, Department of Pharmacy, Hamdard University, Hamdard Nagar, New Delhi.

THESES OF THE MONTH

A list of Doctoral Theses accepted by Indian Universities

PHYSICAL SCIENCES

Mathematics

1. Bagh, Somanath. **Contributions to the study of some properties of a class of random polynomials.** Sambalpur. Dr N N Nayak, Reader, Department of Mathematics, Orissa University of Agriculture and Technology, Bhubaneswar.

2. Musheer Ahmad. **0 high and neat subgroups of Abelian groups.** AMU. Dr A Mashood, Reader, Department of Mathematics, Aligarh Muslim University, Aligarh.

3. Raju, G S S. **A study of hypergraphs.** Venkateswara. Dr Vangipuram Srinivasan, Department of Mathematics, Sri Venkateswara University College, Tirupati.

4. Vyaohar, Neha. **A study of approximation problems by Norlund - means of ultra spherical series.** Vikram. Dr Ashutosh Pathak, Department of Mathematics, Vikram University, Ujjain.

Statistics

1. Deshpande, Sunita Krishnarao. **Statistical inference for Markov chains.** Karnatak. Dr B R Bhat, Prof (Retd), Department of Statistics, Karnatak University, Dharwad.

2. Rakesh Kumar. **Some contributions to stratified sampling.** PAU.

Physics

1. Abadi, Saeed Pilevar Mohammad. **Studies on fiber optic components based on single mode fibers with circular and elliptic cores.** IIT Delhi. Prof K Thyagarajan, Department of Physics, Indian Institute of Technology, New Delhi and Dr Arun Kumar, Department of Physics, Indian Institute of Technology, New Delhi.

2. Amaranath, G. **Optical absorption and luminescence properties of certain rare earths doped heavy metal fluoride glasses.** Venkateswara. Dr S Buddhudu, Reader, Department of Physics, Sri Venkateswara University College of Arts and Sciences, Tirupati.

3. Annapurna, Sathiraju. **Studies on physical properties of some molluscan shells.** Osmania.

4. Bakhshish Chand. **High resolution spectroscopic studies in certain nuclei.** Panjab.

5. Baskar, K. **Growth ana characterization of monocrystals of mercury (I) halides and mercury (II) iodide.** Anna.

6. Bhoga, Shyamsundar Shashibhushan. **Development of $Li_2SO_4 : Li_2CO_3$, eutectic material from power source point of view. Nagpur. Dr (Miss) Kamal Singh, Department of Physics, Nagpur University, Nagpur.**

7. Chopra, Namrata. **Some aspects of photon propagation in pulsar magnetospheres.** Delhi.

8. Dial Chand. **A study of transient waves in thermoelastic and magneto-thermoelastic media.** HP.

9. Ghose, Sujit Kumar. **Study of the scattering of photons near absorption edges.** NBU.

10. Golapaswamy, H. **Studies in photovoltaic materials: Photovoltaic performance of $ZnO/CuGaSe_2$ thin film heterojunctions.** Venkateswara. Prof P Jayarami Reddy, Department of Physics, Sri Venkateswara University College, Tirupati.

11. Jain, Anubha. **Electrical characteristics of film of organic polyblends grown by isothermal solution immersion technique.** HS Gour. Prof A P Shrivastava (Retd), Department of Physics, Dr Hari Singh Gour Vishwavidyalaya, Sagar.

12. Kar, Sukumar Chandra. **Some problems in electrical power system apparatus and its protection using microprocessors.** Calcutta.

13. Mangapathi Rao, D. **Preparation and characterisation of high temperature Bi-Ca-Sr-Cu-O superconductors.** Osmania.

14. Mavi, Harminder Singh. **Raman study of CW laser annealed amorphous silicon on quartz and sapphire substrates.** IIT Delhi. Prof K P Jain, Department of Physics, Indian Institute of Technology, New Delhi and Prof S C Abbi, Department of Physics, Indian Institute of Technology, New Delhi.

15. Munirathnamachari, K. **Study of sintering in copper.** Osmania.

16. Nambissan, P M Gopalakrishnan. **Positron annihilation and scanning electron microscopy studies in alpha-irradiated tantalum, tungsten, molybdenum and aluminium samples.** Calcutta.

17. Palanisamy, P K. **Stimulated emission spectroscopy of some coumarin laser dyes using nitrogen laser excitation.** Anna.

18. Patel, Sunilbhai Shankarbhai. **Growth and electrical properties of SnSO single crystals and thin films.** Patel. Prof M K Agarwal, Department of Physics, Sardar Patel University, Vallabh Vidyanagar.

18. Prasad, Anusuya. **Some aspects of proton-emulsion nuclei interactions at 800 GeV.** Delhi.

19.· Ramakumar, R. **Many body effects of electron correlations in narrow energy bands.** IIT Delhi. Prof K P Jain, Department of Physics, Indian Institute of Technology, New Delhi.

20. Sankar, B N. **Validity of some approximation methods in higher order vibrational analysis.** Anna.

21. Sarkar, Gautam. **Some studies on thyristors and the associated circuits.** Calcutta.

22. Sujatha, K. **Studies in thin films: Physical investigations on Bi-SiO cermet films.** Venkateswara. Prof P Jayarama Reddy, Department of Physics, Sri Venkateswara University College, Tirupati.

23. Vijaya Bhaskar Rao, S. **Microwave propagation studies: Radar and microwave propagation characteristics over coastal and hilly terrains.** Venkateswara. Prof M J Kesava Murthy, Department of Physics, Sri Venkateswara University Post Graduate Centre, Kurnool.

Chemistry

1. Arvinder Kaur. **Studies on synthesis and herbicidal activity of compounds containing hetero atoms.** PAU.

2. Ashok, B. **Synthesis of some biologically active compounds.** Osmania.

3. Ashok Kumar, Sannala. **Analytical redox applications of ascorbic acid.** Andhra.

4. Ayyadurai, K. **A study of heavy metal pollution in Cauvery River, Cooum rivulet and Chetput pond.** Anna

5. Babu, Kesana Surendra. **Proton transfer and charge transfer characteristics of some diheteroalicyclic compounds.** Andhra.

6. Bhattacharyya, Sisir Kanti. **Chemical examination of Indian medicinal plants of the order Rutales.** Calcutta

7. Biswas, Subhabrata. **Reactions of some simple condensates of 4-Oxo-4H-1-benzopyran-3-carboxaldehyde.** Calcutta.

8. Chaturvedi, Pramod Kumar. **Studies on cardiotonic constituents of some Indian Liliaceae plants.** HS Gour. Prof V K Saxena, Department of Chemistry, Dr Hari Singh Gour Vishwavidyalaya, Sagar.

9. Chaurasia, Sunita. **Synthesis of some novel heterocyclic compounds and evaluation of their biological activity.** HS Gour. Dr (Mrs) Savitri Devi Shrivastava, Department of Chemistry, Dr Hari Singh Gour Vishwavidyalaya, Sagar.

10. Govind, B. **Platinum metal complexes with bifunctional pyrazole amides.** Osmania.

11. Hemender Reddy, K. **Studies on the formation of pyrazolo (3, 4-d) and (1, 5-a) pyrimidines from 5-aminolh-pyrazole-4-carboxamides and carbonyl compounds.** Osmania.

12. Jai Bhagwan. **Synthesis of cellulose derivatives and their thermal, morphological and spectral studies.** Kurukshetra.

13. Jain, Urmila. **Electrochemical studies on some biologically important arylazopyrazoles and their precursors.** Jiwaji. Dr Rajeev Jain, Reader, Department of Chemistry, Jiwaji University, Gwalior.

14. Kanagaraj, G. **Synthesis and characterization of metal complexes of some pharmaceuticals.** IIT Delhi. Prof G N Rao, Department of Chemistry, Indian Institute of Technology, New Delhi.

15. Kapur, Vinay Sharan. **Some studies on mercury pollution in Sone river.** Awadhesh. Dr K C Mathur, Prof, Department of Chemistry, Awadhesh Pratap Singh Vishwavidyalaya, Rewa.

16. Kishta Reddy, K. **Total synthesis of cervinomycins.** Osmania.

17. Lahiri, Saswati. **Studies on the chemistry of the secondary metabolites of some Indian orchids.** Calcutta.

18. Lakshmi, A Bhaskara. **Mechanistic studies and synthetic applications of enone-alkene photoannelation reaction.** Osmania.

19. Nanjundan, S. **A study of the kinetics of oxidation of naphthyl, styryl ketones by pyridinium chlorochromate and of substituent effects on their H-NMR and infrared frequencies.** Anna.

20. Padmavathi, V. **Studies on the synthesis, structural and bioactive nature of some heterocyclid compounds: Epiropyrimidines, pyrazoles and isoxazoles.** Venkateswara. Prof D Bhaskar Reddy, Department of Chemistry, Sri Venkateswara University College, Tirupati.

21. Patel, Naginbhai Bavabhai. **Synthesis and evaluation of dyes and pigments containing methylene-bis-quinazolinone moiety.** Patel. Dr V S Patel, Prof and Head, Department of Chemistry, Sardar Patel University, Vallabh Vidyanagar and Dr (Miss) R G Patel, Reader, Department of Physics, Sardar Patel University, Vallabh Vidyanagar.

22. Patel, Navnitkumar Zaverbhai. **Synthesis, characterization and microbial studies of some Friedel Crafts resins.** Patel. Dr R M Patel, Reader, Department of Chemistry, Sardar Patel University, Vallabh Vidyanagar.

23. Patel, Nimishkumar Chimanbhai. **Thermal and dielectric behaviour of IPNS from castor oil.** Patel. Dr B P Suthar, Reader, Department of Chemistry, Sardar Patel University, Vallabh Vidyanagar.

24. Pugazhendhi, P. **Studies on internal pressure in electrolyte and non-electrolyte solutions.** Anna.

25. Ramesh Kumar, Ch. **Synthesis, reactivity and spectral studies of isoxazole derivatives.** Osmania.

26. Saxena, Sushil Kumar. **Studies on analysis of some organic pollutants in water.** AMU. Dr H S Rathore.

27. Sharma, Anita. **Thermal reactions of some chalcones and flavones.** Vikram. Dr (Mrs) Shubha Jain, Department of Chemistry, Vikram University, Ujjain.

28. Shukla, Neeta. **Studies in synthesis of some pharmacologically active heterocyclic compounds.** Awadhesh. Dr K C Mathur, Prof, Department of Chemistry, Awadhesh Pratap Singh Vishwavidyalaya, Rewa.

29. Singh, Pradeep Kumar. **Studies on metal chelates of thiosemicarbazide and thiosemicarbazones.** Awadhesh. Dr K B Pandey, Head, Department of Chemistry, Awadhesh Pratap Singh Vishwavidyalaya, Rewa.

30. Srinivasulu Reddy. **Studies on electrode process.** Venkateswara. Prof S Jayarama Reddy, Department of Chemistry, Sri Venkateswara University College of Engineering, Tirupati.

31. Sri Rama Krishna Rao, Gude. **Kinetics of some catalysed redox reactions of parabenzoquinone and chromium (VI).** Andhra.

32. Sumanjit Kaur. **Photochemistry of pentacyanonitrosylferrate (II), $[Fe(CN)_5 NO]^{2-}$.** Punjabi. Prof K S Sidhu, Department of Chemistry, Punjabi University, Patiala.

33. Venkaiah Naidu, D. **A study in water pollutants: Analysis of carbomate pesticides.** Venkateswara. Prof P R Naidu, Department of Chemistry, Sri Venkateswara University College, Tirupati.

34. Venkataramana, B. **Study of metal complexes.** Venkateswara. Dr K Lakshminarayana, Reader, Department of Chemistry, Sri Venkateswara University College, Tirupati.

Earth Sciences

1. Das, Susanta Kumar. **Stratigraphy of the tertiary succession exposed along the Waior Cheropodi Nala Section, South Western Kutch, Gujarat, India, with special reference to foraminifera.** Calcutta.

2. Gangadhara Rao, Tanuku. **Theoretical, model and field studies on resistivity and induced polarisation methods in exploration geophysics.** Andhra.

3. Janardhana Raju, N. **Hydrogeology of the upper Gunjaneru River Basin, Cuddapah District, Andhra Pradesh, India.** Venkateswara. Dr P T Nayudu, Department of Geology, Sri Venkateswara University College, Tirupati and Dr T V Krishna Reddy, Lecturer, Department of Geology, Sri Venkateswara University College, Tirupati.

4. Kondapainaidu, V. **Hydrogeology of the Kalangi River Basin, Chittoor District, Andhra Pradesh, India.** Venkateswara. Dr K Kesava Raju, Department of Geology, Sri Venkateswara University College, Tirupati.

5. Md Aynal Haque. **Indian monsoon: Space and time variability analysis with teleconnection aspects as inferred from satellite derived OLR data.** IIT Delhi. Dr M Lal, P S O, Centre for Atmospheric Sciences, Indian Institute of Technology, New Delhi.

6. Mitra, AshisKumar. **Numerical simulation of tidally induced flow along Indian coastal regions.** IIT Delhi. Dr P C Sinha, Centre for Atmospheric Sciences, Indian Institute of Technology, New Delhi and Dr S K Dube, Centre for Atmospheric Sciences, Indian Institute of Technology, New Delhi.

7. Ravinder Singh. **Structural-lithological investigations of Naraul sulfide belt, District Kulu, Himachal Pradesh, India.** Panjab.

8. Sankaranna, G. **Biogeochemistry of Agnigundala base metal mineralised belt, Guntur District, Andhra Pradesh.** Venkateswara. Dr E A V Prasad, Department of Geology, Sri Venkateswara University College of Arts and Sciences, Tirupati.

9. Sengupta, Dhurjatiprasad. **New amphibians, Labyrinthodentia temnospondyli from the Maleri formation, Deccan, India: Their**

ignificance in geology and palaeontology. Calcutta.

10. Sivaremi Reddy, K. **Geology, genesis and utilisation of barytes deposits of Cuddapah District, Andhra Pradesh, India.** Venkateswara. Prof G V S Rama Rao, Department of Applied Geology, Sri Venkateswara University Post Graduate Centre, Cuddapah.

11. Sreenivasa Rao, Pavuluri. **Studies on holocene sediments in the Nizampatnam Bay, East Coast of India.** Andhra.

12. Subramanyam, A. **Land and water resources of Nagarjunasagar Jawahar Canal Command Area, Andhra Pradesh, India.** Venkateswara. Dr G V S Rama Rao, Prof, Department of Geology, Sri Venkateswara University College of Arts and Sciences, Tirupati.

13. Suresh Kumar Reddy, Y. **Seismotectonics and nature of plate movement in Southern Tien Shan, North Pamir, Karakorum and Tibetan Plateau Regions.** ISM. Prof R K Verma.

14. Syed Riyaz Ulla, M. **Genesis and beneficiation of gold and scheelite from Hutti Gold Deposit of Peninsular India.** Bangalore. Dr A M Pathan, Prof, Department of Geology, Bangalore University, Bangalore.

15. Uday Raj, B. **Geology and geochemistry of the Melukote Belt, Mandya Distt, Karnatak.** Osmania.

16. Venkata Rao, Muppa. **Petrology and geochemistry of granulites with reference to precambrian carbonate rocks from Umpavalli area in the Eastern Ghats of India.** Andhra.

Engineering & Technology

1. Bhattacharyya, Subir. **AI search techniques for game trees: Making effective use of available memory and processors.** Calcutta.

2. Choubey, Uday Bhanu. **Behaviour of infilled frames under cyclic loads.** IIT Delhi. Dr S N Sinha, Department of Civil Engineering, Indian Institute of Technology, New Delhi and Dr K G Sharma, Department of Civil Engineering, Indian Institute of Technology, New Delhi.

3. Hosseinalipour, Mujtaba. **Financial modelling of multiproject schedules, through cost build up curves.** IIT Delhi. Prof P Natarajan, Department of Civil Engineering, Indian Institute of Technology, New Delhi and Dr V B Deshpande, Department of Civil Engineering, Indian Institute of Technology, New Delhi.

4. Jose, N A. **A multilevel approach for the optimal generation scheduling in an inter connected power system.** Kerala. Dr K Ramachandran, Joint Director of Technical Education, University of Kerala, Trivandrum.

5. Mittal, Ravi. **Augmented binary tree architectures and their fault tolerance.** IIT Delhi. Dr B N Jain, Department of Computer Science and Engineering, Indian Institute of Technology, New Delhi and Dr R K Patney, Department of Electrical Engineering, Indian Institute of Technology, New Delhi.

6. Mukhopadhyay, Anjan Kumar. **Studies on drawing of polyethylene terephthalate by the prototype incremental drawing process.** IIT Delhi. Prof Ashok Misra, Centre for Materials Science and Technology, Indian Institute of Technology, New Delhi and Prof Bhaskar Dutta, Indian Institute of Technology, New Delhi.

7. Mukundan Menon, K K. **Some aspects of strengthening of gravity dams.** IIT Delhi. Prof A Varadarajan, Department of Civil Engineering, Indian Institute of Technology, New Delhi and Dr K G Sharma, Department of Civil Engineering, Indian Institute of Technology, New Delhi.

8. Nand Kumar. **Some studies on bipolar synchronization schemes.** IIT Delhi. Prof S I Ashon, Department of Electrical Engineering, Indian Institute of Technology, New Delhi.

9. Njoku, Paul Chukwnyere. **Role of transportation and petroleum industry in economic development of Nigeria.** IIT Delhi. Prof P S Satsangi, Department of Electrical Engineering, Indian Institute of Technology, New Delhi; Dr M C Mathur, Department of Electrical Engineering, Indian Institute of Technology, New Delhi and Dr D K Banwet, Centre for Management Studies, Indian Institute of Technology, New Delhi.

10. Om Prakash. **Some studies on condition monitoring and dynamics of centrifugal pumps.** IIT Delhi. Prof B C Nakra, Industrial Tribology, Machine Dynamics and Maintenance Engineering Centre, Indian Institute of Technology, New Delhi and Prof K Gupta, Industrial Tribology, Machine Dynamics and Maintenance Engineering Centre, Indian Institute of Technology, New Delhi.

11. Patro, T Narayan. **Utilisation of hydrogen fuel in small utility CI engine and its effects on engine performance, emission and combustion characteristics.** IIT Delhi. Prof H B Mathur, Centre for Energy Studies, Indian Institute of Technology, New Delhi and Dr L M Das, Centre for Energy Studies, Indian Institute of Technology, New Delhi.

12. Pundhir, Devendra Singh. **A study of aerodynamics performance of a contrarotating axial compressor stage.** IIT Delhi. Prof K K Choudhry, Department of Applied Mechanics, Indian Institute of Technology, New Delhi and Prof P B Sharma, Department of Mechanical Engineering, Indian Institute of Technology, New Delhi.

13. Raghava Rao, J. **Studies on the approaches to the better management of chromium (III) salts as tanning agents.** Anna.

14. Ramakrishna, P V. **Theoretical characterization of certain finline configurations.** IIT Delhi. Dr (Mrs) Devi Chadha, Department of Electrical Engineering, Indian Institute of Technology, New Delhi.

15. Satsangee, Radhika. **Anaerobic biodegradation of phenol.** IIT Delhi. Dr P Ghosh, Biochemical Engineering Research Centre, Indian Institute of Technology, New Delhi.

16. Saxena, Anand Swarup. **Studies in parameter estimation using Walsh functions approach.** IIT Delhi. Prof V S Rajamani, Department of Electrical Engineering, Indian Institute of Technology, New Delhi and Dr A N Jha, Department of Electrical Engineering, Indian Institute of Technology, New Delhi.

17. Saxena, Jagendra Prasad. **Systems analysis for development of energy conservation policy and strategy in Indian cement industry.** IIT Delhi. Prof Prem Vrat, Centre for Management Studies, Indian Institute of Technology, New Delhi and Dr Sushil, Centre for Management Studies, Indian Institute of Technology, New Delhi.

18. Seraji, Faramarz Esmaili. **Analysis of fibre-optic ring resonator and sensing systems.** IIT Delhi. Dr G Soundra Pandian, Department of Electrical Engineering, Indian Institute of Technology, New Delhi.

19. Shakib. Hamzeh. **Elastic and inelastic behaviour of torsionally coupled system under random ground motion.** IIT Delhi. Prof S A Kazimi, Department of Applied Mechanics, Indian Institute of Technology, New Delhi and Prof T K Datta, Department of Civil Engineering, Indian Institute of Technology, New Delhi.

20. Soliman, Hany Othman. **Response of over-ground pipelines and piping systems to random ground motion.** IIT Delhi. Prof T K Datta, Department of Civil Engineering, Indian Institute of Technology, New Delhi.

21. Srivastava, Ravindra Kumar. **Modal identification and optimal modification of systems via dynamic stiffness and sensitivity analysis.** IIT Delhi. Dr T K Kundra, Department of Mechanical Engineering, Indian Institute of Technology, New Delhi.

22. Thankappan, K V. **Investigation of swirling compressible flow through wedgevaned radial diffusers for centrifugal compressors.** IIT Delhi. Dr S M Yahya, Department of Mechanical Engineering, Indian Institute of Technology, New Delhi and Dr D P Agrawal, Department of Mechanical Engineering, Indian Institute of Technology, New Delhi.

23. Thomas, Mini S. **Some studies on multiconductor transmission lines and multiwinding transformers.** IIT Delhi. Prof C S Indulkar, Department of Electrical Engineering, Indian Institute of Technology, New Delhi and Dr P R Bijwe, Department of Electrical Engineering, Indian Institute of Technology, New Delhi.

CENTRAL DRUG RESEARCH INSTITUTE

(Council of Scientific and Industrial Research)

Advertisement No. 20/91

Applications are invited for the following posts in CDRI, Lucknow :-

1. **SCIENTIST 'F' :** (2 Posts) (Rs. 5100-150-5700-200-6300)

Post No. (I) (Protein Engineering)

EQ : Excellent academic career, 1st class M.Sc. with Ph.D. in Biochemistry/Biotechnology/Chemistry with original work as evidence of leadership of multidisciplinary group and at least 10 years of R&D experience.

JR : To plan, lead and organise R&D activities on engineering and structure and function of biologically important proteins for developing new drugs, vaccines, diagnostics and delivery systems with emphasis on parasitic diseases. Basic studies on analysis of drug action at cellular and subcellular levels.

Post No. (II) (Process Development)

EQ : Excellent academic record with M.Tech/Ph.D. in Chemical Technology, M.Sc., Ph.D. Organic Chemistry, or equivalent qualification, at least 10 years R&D experience in development/upscaling of technology or production of bulk drugs supported by patents or publications and evidence of leadership in this area. Experience in plant design desirable.

JR : To plan, lead and organise R&D activities in upscaling of processes for bulk production of known and new durgs, plant design, techno-feasibility studies.

2. **SCIENTIST'E. II':** (1 Post) (Toxicology) (Rs. 4500-150-5700)

EQ : M.D./Ph.D. in clinical/veterinary pathology or related areas with at least 10 years' experience in mammalian histopathology as supported by publications and evidence of leadership.

JR : To plan, lead and organise regulatory toxicity studies of new agents, basic studies in the area and to develop new test models.

3. **SCIENTIST 'E. I':** (2 Posts) (Rs. 3700-125-4700-150- 5000)

Post No. (I) : (P.D. Division)

EQ : Excellent academic record with M.Tech/Ph.D. in Chemical Technology or equivalent qualification, about 10 years R&D experience in development/upscaling of technology or production of bulk drugs as evidenced by patents or publications. Experience in plant design desirable.

JR : Upscaling of processes for bulk production of known and new drugs, plant design, techno-feasibility studies.

Post No. (II) (Bio-statistics)

EQ : First class M.Sc. with Ph.D. in Statistics with about 10 years' research experience in bio-statistics development of appropriate software etc.

JR : Design of clinical trial and animal experimental protocols, analysis of clinical and pre-clinical data with new drugs.

4. **SCIENTIST'C':** (5 Posts) (Rs.3000-100-3500-125-4500)

Post No.(I) (Toxicology)

EQ : First class M.V.Sc. (Pathology), MBBS with MD/Ph.D. Pathology or M.Sc. (Zoology) Ph.D. (Histopathology) with 2 years' experience in mammalian histopathology.

JR : Regulatory toxicity studies of new agents and to prepare histopathological reports.

Post No. (II) (Microbiology)

EQ : First class M.Sc. in Microbiology, MBBS/M.V.Sc. (Microbiology) with Ph.D. (Microbiology) or M.D. (Microbiology or Pathology) with 2 years' experience in immunology/chemotherapy of bacterial infections.

JR : Development of vaccine/immunodiagnostic tests/new durgs for bacterial infections and studies on host parasite relationship.

Post No. (III) (Immunology)

EQ : First class M.Sc. in Biochemistry/Biotechnology/MBBS with Ph.D or M.D. in Immunology or Biochemistry or a related discipline and 2 years' experience in immunology of parasitic diseases.

JR : Immunological studies in parasitic diseases for lead generation, antigen characterization or development of new immunomodulators.

Post No. (iv) (Fermentation Technology)

EQ : First class M.Sc. (Organic Chemistry) with 6 years' experience or Ph.D. (Organic Chemistry) with 2 years' research experience in natural products chemistry, preferably in the area of microbial products.

JR : Downstream processing of mutabilities of microbial organisms.

Post No. (v) (Protein Engineering)

EQ : M.Sc. Ist class with Ph.D. in Biochemistry/Microbiology/Biophysics/Chemistry having at least 2 years' research experience in protein isolation and characterization as well as gene cloning.

JR : To undertake studies on isolation and characterization of parasite/mycobacterial proteins and cloning of their genes in high expression vectors.

5. **SCIENTIST 'B' :** (8 Posts) (Rs. 2200-75-2800-EB-100- 4000)

Post No. (I & II) (Physiology) : Post No. I reserved for SC

EQ : First class M.Sc. in Life Science or Biophysics/M.V.Sc.(Physiology/Pharmacology)/MBBS/MD/Ph.D. Two years' experience in above area or electrophysiology desirable.

JR : Studies on ionic channels in muscles and single cell preparations.

Post No. (III & iv) (Pharmacology) : Post No.iii reserved for ST

EQ : First class M.Sc. in Pharmacology or related disciplines/MBBS/M.V.Sc./M.Pharm with Pharmacology. Ph.D./M.D. Two years' experience in mammalian pharmacology preferably in development of new drugs desirable.

JR : Preclinical Pharmacological studies with new natural products or synthetic compounds.

Post No.(v) (Information)

EQ : First class Master's Degree in Natural Sciences/Operational Research/Commerce/Computer Science/Ph.D. Two years' experience in project evaluation and monitoring in a biomedical research institution and computerisation of R&D data desirable.

JR : Planning and budgeting of R&D projects, computerisation of project data and budget and preparation of annual/5 years' plan documents.

Post No. (vi) (Microbiology)

EQ : First class M.Sc. in Biochemistry/Microbiology/Biotechnology or M.V.Sc./Ph.D. or M.D. in Microbiology. Two years' experience in characterization and preservation of protozoal and helminthic parasites desirable.

JR : Characterization and typing by isoenzymic and immunogenic techniques of protozoan and helminthic parasites and their cryopreservation in parasite bank.

Post No.(vii) (Medical Mycology)

EQ : First class M.Sc. (Microbiology/Biotechnology/Botany), Ph.D. or MBBS, M.D. (Microbiology). Experience in Medical Mycology/Immunology desirable.

JR : In vitro and in vivo evaluation of compounds for drug development, immunological studies on human fungal infections.

Post No. (viii) (Bacterial Genetics)

EQ : First class M.sc. in Life Sciences/Biochemistry/Biotechnology/Ph.D. Two years' experience of cloning and expressing of genes desirable.

JR : Studies in protein characterization and gene expression in bacteria and yeast.

6. **ELECTRICAL ENGINEER:** (1 Post) (Rs.2000-60-2300-EB-75-3200-100- 3500)

EQ: First class Diploma in Electrical Engineering (3 years' duration) or equivalent plus 5-8 years' experience in maintenance of electrical motors, HT/LT distribution system or B.E. (Electrical) or equivalent with 2-4 years' experience in maintenance of electrical motors. HT/LT distribution system etc.

JR : Maintenance of HT/LT distribution system, central air conditioning plant, repair of electrical motors etc.

7. **REFRIGERATION ENGINEER:** (1 Post) (Rs.2000-60-2300-EB-75-3200-100-3500)

EQ : First class Diploma in Refrigeration (3-year duration) or equivalent plus 5-8 years' experience in refrigeration work or B.E. (Mechanical Engineering) with refrigeration as a special subject and about 2 to 4 years' experience in refrigeration work.

JR : Repair and preventive maintenance work of Central and Package Air-Conditioning Units.

8. **JUNIOR TECHNICAL ASSISTANT:** (4 Posts) (Rs.1400-40-1800-EB-50- 2300)

Post No.(i) (Biochemistry)

EQ : B.Sc. with Physics and Chemistry as main subjects. Experience in immunological/in vitro culture techniques desirable.

JR : Technical Assistance to Scientists in Biochemical/immunological experimental work.

Post No.(ii) (Animal House)

EQ : B.Sc. with Biology or B.V.S.c. Three years' experience in care breeding and management of Laboratory animals desirable.

JR : To assist in the breeding and management of laboratory animals including non-human primates.

Post No. (iii) (Parasitology)

EQ : B.Sc. with Biology.

JR : Screening of anti-parasitic agents and technical assistance to Scientists.

Post No. (iv) (Medical Mycology)

EQ : B.Sc. with Biology.

JR : In vitro and in vivo screening for anti-microbial activity etc. and technical assistance to Scientists.

GENERAL CONDITIONS:

1. All the above posts carry usual allowance as admissible under the rules of Govt. of India. Total emoluments at the minimum and the maximum of the scale including HRA at present are as follows:-

	Scale of pay	Minimum	Maximum
1.	Rs. 5100-6300	Rs. 8113	Rs.9655
2.	Rs. 4500-5700	Rs.7360	Rs.8941
3.	Rs. 3700-5000	Rs. 6360	Rs. 7975
4.	Rs. 3000-4500	Rs. 5475	Rs. 7360
5.	Rs. 2200-4000	Rs. 4045	Rs. 7275
6.	Rs. 2000-3500	Rs. 3725	Rs. 5960
7.	Rs. 1400-2300	Rs. 2525	Rs. 4205

2. Research experience should preferably be supported by publications in referred journals.

3. Candidates belonging to SC/ST communities will have to furnish certificates from prescribed authority in the required format printed at page 345 of the Brochure on reservation of SC & ST in services which can be supplied on demand failing which they will not be entitled to the concessions admissible to them, if any.

4. Since it is not possible to call all the eligible candidates for the interview, the applications will be shortlisted for the purpose and the decision of the Director will be final.

5. Applicants called for attending the interview will be paid single second class railfare to and from the actual place of travel or residence as mentioned in the application whichever is nearer to Lucknow Railway Station.

6. Separate application for each post along with requisite postal order in a separate envelope indicating the advertisement number and post applied for should be sent.

7. The candidates in Government/Semi-Government Organisations/Public Undertakings and Autonomous Bodies should route their applications through proper channel.

8. The number of vacancies to be filled may vary at the time of actual selection and due consideration for reservations of post will be given wherever necessary.

9. Persons selected for the posts of Scientist 'F', Sc.E.II., Sc.E.I., Sc. 'C' and Sc. 'B' will be on a contract for a period of six years in the first instance except for CSIR employees already confirmed against lower posts. The remaining posts are pensionable subject to the CSIR rules and regulations in force.

10. The Institute has a system of periodical assessment promotion on merit.

11. The prescribed application form may be obtained from the office of the Controller of Administration. Central Drug Research Institute. Chattar Manzil Palace, P.B.No. 173, Lucknow-226001 (UP). by sending a requisition duly indicating the post and advertisement number along with a self-addressed envelope of size 23x10cm. Any request for application form received after 30.01.1992 will not be entertained for supply by post. Application duly completed (supported by the attested copies or certificates and testimonials) along with a non-refundable fee of Rs.10/- (no application fee is prescribed for SC/ST candidates) in the form of crossed Indian Postal Order drawn in favour of the Director, Central Drug Research Institute. Lucknow, should reach Director, Central Drug Research Institute. Lucknow, on or before 25.02.1992. Application received after this date will not be considered.

12. Canvassing in any form and/or bringing in any influence political or otherwise, will be treated as a disqualification for the post.

BHARATHIAR UNIVERSITY

COIMBATORE - 641 046

ADMISSION NOTIFICATION

MASTER OF COMPUTER APPLICATIONS (M.C.A.)

Applications are invited for admission for the academic year 1992-93 to the 3 year full-time Master's Degree Course in Computer Applications (M.C.A.) of the Bharathiar University.

ELIGIBILITY: Applicants will be required to possess a B.Sc Degree in Mathematics/Statistics/Computer Science/B.Sc (Applied Science/Computer Technology) and B.Sc. Degree in Physics/Chemistry/Electronics or B.Com. or B.B.M., (Where the candidate has studied Mathematics and/or Statistics for at least two semesters) of Bharathiar University with FIRST CLASS or a qualification recognised as equivalent thereto by the Bharathiar University. No degree programme of duration less than 3 years after 10 + 2 pattern of schooling is acceptable.

ADMISSION PROCEDURE: Separate Entrance Test will be conducted on Saturday, the 21st March 1992 at Coimbatore. The entrance examination is likely to consist of objective types of questions, to test general knowledge, logical reasoning, and mathematical ability. Based on the ranking in the entrance examination, short listed candidates will be called for personal interview to be conducted at the University during June 1992.

Candidates appearing for the final degree examinations in April/May 1992, may also apply. But, if selected, they have to produce proof of having passed their Bachelor's degree course, satisfying the eligibility at the time of joining.

HOW TO APPLY: Prescribed application forms can be obtained from **the Registrar, Bharathiar University, Coimbatore - 641 046** by sending a separate Demand Draft drawn in favour of the Registrar, Bharathiar University. Application fee for M.C.A. course is Rs.150/- (in case of SC/ST candidates, application fee is Rs.40/-, if they produce the **attested xerox copy** of the Community Certificate).

The envelope containing the requisition for application must be superscribed as "REQUEST FOR MCA APPLICATION"

Last date for issue of application forms and receipt of completed applications at the University : **03-02-1992**

Dr. S.P.Visvanathan
REGISTRAR

BHARATHIAR UNIVERSITY : COIMBATORE - 641 046

Announces

POSTGRADUATE – M.B.A. PROGRAMME IN MANAGEMENT

INSTITUTION: The Bharathiar University invites applications for admission to the two-year full-time Master of Business Administration (M.B.A.) Degree Course commencing from July 1992 at the Bharathiar School of Management and Entrepreneur Development.

This School has excellent placement track. Over the years very leading private and public sector giants are visiting the school campus recruitment and provide very attractive compensation packages.

Communal reservation will be followed as stipulated by the Government of Tamil Nadu.

ELIGIBILITY: Candidates must possess at the time of admission, at least a Bachelor's degree of the Bharathiar University or any other examination recognised as equivalent thereto. No degree programme of duration less than 3 years after 10 + 2 pattern of Schooling or of less than 4 years in the case of 11 years of Schooling will be recognised as meeting the requirement of eligibility. They should have secured a minimum of 50% marks (or an equivalent grade point average) in the above examination. He/She should have passed + 2 or equivalent examination also with 50% of marks. Candidates expecting to graduate before the commencement of the course in July 1992 can also apply but, if selected, they have to produce evidence of their having passed the final Bachelor's degree examination with a minimum of 50% of marks in aggregate from the concerned university before admission.

ADMISSION PROCEDURE: Admission will be made on the basis of a written test, past academic performance, group discussion and personal interview. Written test will be held at Coimbatore on Sunday, the 22nd March 1992. The successful shortlisted candidates alone will be called for the group discussion and personal interview at Coimbatore, during June 1991. **FEES:** The fees for the programme will be about Rs.4,000/- per year, and Caution Deposit of Rs. 700/- (Refundable).

HOW TO APPLY: Application forms and further details can be obtained from **the Registrar, Bharathiar University, Coimbatore- 641 046** on payment of Rs. 150/- by means of a Demand Draft. SC/ST candidates have to pay only Rs.40/- provided they submit an **attested xerox copy of Community Certificate** with the request for application.

The envelope containing the requisition for application must be superscribed as "APPLICATION FOR MBA".

Last date for issue of application forms and receipt of filled-in applications at the University : **03-02-1992.**

Dr. S. P. Visvanathan
REGISTRAR

Ministry of Defence

Defence Research and Development Organisation (DRDO)

ADVT. NO. 030/RAC/91

DRDO invites applications for the following posts:

SCIENTIST 'G' :(Rs.5900-7300) – 3 Posts .

R&D Headquarters, New Delhi

Item No.1 : 1 Post – ESSENTIAL QUALIFICATIONS:(1)At least second class Bachelor's degree in Mechanical Engineering or Master's degree in Science from a recognised university or equivalent.(2) 12 years' research , design & development experience in the field of Armaments and related areas out of which 5 years should be in a responsible capacity with experience to manage multi-disciplinary R & D projects. The candidates may also possess experience of transfer of technology in the above mentioned area: DESIRABLE QUALIFICATIONS : Master's degree in Mechanical Engineering or Ph.D. in Science in the relevant area.

Solid State Physics Laboratory, Delhi

Item No.2 : 1 Post – ESSENTIAL QUALIFICATIONS: (1)Atleast second class Master's degree in Physics from a recognised university or equivalent.(2) Atleast 12 years research,design and development experience in the area of solidstate materials or solidstate devices and/as evidenced by patents/publications in reputed journals, of which 5 years should have been in a responsible capacity involving group activities and management of multidiscplinary R & D projects. DESIRABLE QUALIFICATIONS:(i)Ph.D in the relevant area (ii)Experience in GaAs devices/IC technology.

Centre For Air Borne System, Bangalore

ITEM NO. 3 : 1 Post – ESSENTIAL QUALIFICATIONS:(i) At least second class Bachelor's degree in Mechanical/Aeronautics/Electronics/Electrical Engineering from a recognised university or equivalent. (ii) 12 years' research design & development experience in Aeronautical technologies of which 5 years should be in a responsible capacity with experience of managing multi-disciplinary projects and interaction with services, academic & other research institutions. DESIRABLE QUALIFICATIONS: Master's degree in relevant subject.

SCIENTIST 'E' : (Rs. 4500-5700) – 1 Post.

Defence Research & Development Laboratory, Hyderabad

Item No. 4 : 1 Post – ESSENTIAL QUALIFICATIONS: (i) At least second class Bachelor's degree in Electronics/Telecommunications/Electronics and Communication or Master's degree in Science with specialisation in Electronics from a recognised university or equivalent. (ii) Ten years' research, design & development experience in Microwave Systems/Components for Ground/Airborne Search and Tracking Radars of which atleast 3 years should be in a responsible position. DESIRABLE QUALIFICATIONS : (i) Master's/Ph.D degree in Microwaves. (ii) Experience in Radar System Design.

SCIENTIST 'D': (Rs. 3700-5000) – 6 Posts.

Institute of Armament Technology, Pune

Item No. 5 : 1 Post – ESSENTIAL QUALIFICATIONS : (i) At least second class Bachelor's degree in Electrical/Electronics/Aerospace Engineering from a recognised university or equivalent. (ii) Eight years' R&D/teaching experience in the field of Missile Guidance/Image Processing/Pattern Recognition and Automatic Target Techniques/Signal Processing. DESIRABLE QUALIFICATIONS : Master's degree in Electrical/Electronics/ Aerospace/ Guided Missile Engineering.

Aeronautical Development Establishment, Bangalore

Item No. 6 : 1 Post-ESSENTIAL QUALIFICATIONS : (i) At least second class Bachelor's degree in Mechanical Engineering from a recognised university or equivalent. (ii) Eight years' experience in the Design, Development and Qualification Testing of Hydraulic Components and Hydraulic Systems used in Power Control of Fighter & Trainer Aircraft as well associated ground test facilities. DESIRABLE QUALIFICATIONS : (i) Master's degree in Mechanical Engineering. (ii) Knowledge of German, French, Russian, Japanese or Chinese Languages.

Defence Metallurgical Research Laboratory, Hyderabad

Item No. 7 : 1 Post – ESSENTIAL QUALIFICATIONS : (i) At least second class Bachelor's degree in Metallurgy or Materials Science from a recognised university or equivalent. (ii) Eight years' research and development experience in the area of deformation modelling and formability of materials. DESIRABLE QUALIFICATIONS : Master's degree in Metallurgy/Ph.D in Materials Science.

Defence Research & Development Laboratory, Hyderabad

Item No. 8 : 1 Post – ESSENTIAL QUALIFICATIONS : (i) Atleast second class Bachelor's degree in Electronics from a recognised university or equivalent. (ii) Eight years' research, design and development experience in the area of Guided Weapon integration, environmental specification and operations/maintenance of guided missile systems. DESIRABLE QUALIFICATIONS : Master's degree or equivalent course in Electrical/Electronics or Guided Weapon Systems.

Item No.9 : 1 Post – ESSENTIAL QUALIFICATIONS : (i) At least second class Bachelor's degree in Engineering from a recognised university or equivalent. (ii) Eight years' research and development experience in the field of aerospace systems. Management including Quality assurance/Quality circles of Missile systems and their flight trials. DESIRABLE QUALIFICATIONS : Master's degree in Engineering in the relevant area.

Defence Research & Development Establishment, Gwalior

Item No. 10 : 1 Post – ESSENTIAL QUALIFICATIONS : (i) Atleast second class Bachelor's degree in Chemical Engineering from a recognised university or equivalent. (ii) Eight years' research & development experience in Process control instrumentation and design of Chemical Plants. DESIRABLE QUALIFICATIONS : (i) Master's degree in Chemical Engineering.

SCIENTIST 'C' : (Rs. 3000-4500) – 8 Posts

Defence Research & Development Laboratory, Hyderabad

Item No. 11 : 1 Post – ESSENTIAL QUALIFICATIONS : (i) At least second class Bachelor's degree in Ceramic Engineering/Technology from a recognised university or equivalent. (ii) Four years research, design and development experience in Ceramics. DESIRABLE QUALIFICATIONS : (i) Master's degree in Ceramics Engineering. (ii) Experience in fabrication of precision and high-tech Ceramic components.

Defence Research & Development Establishment, Gwalior

Item No. 12 : 1 Post – ESSENTIAL QUALIFICATIONS (i) At least second class Master's degree in Pharmaceutics/Pharmaceutical analysis or related discipline from a recognised university or equivalent (ii) Four years' research and development experience in drug development/pharmaceutical analysis/drug formulation. DESIRABLE QUALIFICATIONS : Ph.D degree in Pharmacy/Pharmaceutics or related discipline.

Item No. 13 : 1 Post – ESSENTIAL QUALIFICATIONS : At least second class Master's degree in Physiology/Veterinary Science with specialisation in Physiology/Veterinary Science with specialisation in Physiology. (ii) Four years R&D experience in Electro-physiology and/or Neuro-physiology as evidenced by publications in reputed journals. DESIRABLE QUALIFICATIONS : Doctorate degree in Physiology.

Defence Electronics Applications Laboratory, Dehra Dun

Item No. 14 : 1 Post – ESSENTIAL QUALIFICATIONS : (i) At least second class Bachelor's degree in Electronics/Computer Engineering or Master's degree in Physics/Statistics from a recognised university or equivalent. (ii) Four years' experience in the area of Image Processing & Pattern Recognition. DESIRABLE QUALIFICATIONS : (i) Master's degree in Electronics/Computer Engineering or Ph.D degree in Science in the related field. (ii) Experience in development of Expert Vision systems.

Item No. 15 : 1 Post – ESSENTIAL QUALIFICATIONS : (i) At least second class Bachelor's degree in Electronics and Communications/Telecommunication Engineering or Master's degree in Physics with specialisation in Electronics from a recognised university or equivalent. (ii) Four years' experience in design and development of Microwave components using Microwave Integrated Circuit Technology. DESIRABLE QUALIFICATIONS : (i) Master's degree in Electronics/Electronics and Communications/Microwave Engineering or Ph.D degree in Science in the related field

Defence Metallurgical Research Laboratory, Hyderabad

Item No. 16 : 1 Post – ESSENTIAL QUALIFICATIONS : (i) At least second class Bachelor's degree in Metallurgy or Master's degree in Materials Science from a recognised university or equivalent. (ii) Four years' research and development experience in the area of solidification processing with emphasis on rapid solidification and its effects on materials structure and properties. DESIRABLE QUALIFICATIONS: Master's degree in Metallury/Ph.D in Materials Science.

Institute of Nuclear Medicine & Allied Sciences, Delhi

Item No. 17 : 1 Post – ESSENTIAL QUALIFICATIONS : (i) Atleast second class Master's degree in Physiology/Biochemistry from a recognised university or equivalent. (ii) Four years' research & development experience of having developed and validating original Radioimmunoassay systems for measuring hormonal substances. DESIRABLE QUALIFICATIONS: Ph.D degree in endocrinology or related subject.

Item No. 18 : 1 Post – ESSENTIAL QUALIFICATIONS : (i) A medical qualification included in first schedule or second schedule or the part II of the third schedule of the IMC Act, 1956. Holders of medical qualifications included in Part II of the said third schedule should also fulfil the conditions specified in sub-section (3) of section 13 of the said Act. (ii) MD in General Medicine. (iii) Three years Experience in Endocrinology.

SCIENTIST 'B' :(Rs. 2200-4000) – 27 Posts (UR-3, SC-9, ST-15).

Item No. 19 : 1 Post (SC) – ESSENTIAL QUALIFICATIONS : At least second class Master's degree in Veterinary Science from a recognised university or equivalent. DESIRABLE QUALIFICATIONS : (i) Ph.D degree in animal genetics/animal breeding. (ii) R&D experience in up- keep and maintenance of animal house for rodents and primates.

Item No. 20 : 1 Post (UR) – ESSENTIAL QUALIFICATIONS : At least second class Master's degree in Nutrition/Food Science/Food Technology from a recognised university or equivalent. DESIRABLE QUALIFICATIONS : (i) Ph.D degree in Nutrition/Food Science/Food Technology. (ii) Research experience in Food Flavours/Vitamin Analysis.

Item No. 21 : 1 Post (UR) – ESSENTIAL QUALIFICATIONS: At least second class BE/B Tech degree or Master's degree in Material Science from a recognised university or equivalent. DESIRABLE QUALIFICATIONS : M.Tech/Ph.D degree in the relevant field.

Item No.22 : 2 Posts (UR-1,SC-1)—ESSENTIAL QUALIFICATIONS:At least second class Master's degree in Science and Bachelor's or Master's degree in Library Science from a recognised university or equivalent or Associateship of INSDOC or DRTC.

Item No.23 : 3 Posts (SC-1,ST-2) – ESSENTIAL QUALIFICATIONS: Atleast second class Bachelor's degree in Electronics Engineering from a recognised university or equivalent. DESIRABLE QUALIFICATIONS : Master's degree in Microwave/Advanced Electronics Engineering.

Item No.24 : 1 Post (SC) – ESSENTIAL QUALIFICATIONS: (i) Atleast second class Master's degree in Science subject. (ii) Advanced Diploma or degree in French/Chinese language from a recognised university or equivalent. DESIRABLE QUALIFICATIONS : Flair for interpretation of French/Chinese language into English or vice versa.

Item No.25 : 1 Post (ST) – ESSENTIAL QUALIFICATIONS:At least second class Bachelor's degree in Naval Architecture from a recognised university or equivalent. DESIRABLE QUALIFICATIONS : Master's degree in Naval Architecture.

Item No.26 : 1 Post (SC-1) – ESSENTIAL QUALIFICATIONS:At least second class Master's degree in Pure Applied Physics (NOn-Electronics) or Meteorology)weather forecasting) from a recognised university or equivalent. DESIRABLE QUALIFICATION: Experience in Numerical Weather Forecast Modelling.

Item No.27: 2 Posts (ST) – ESSENTIAL QUALIFICATIONS:Atleast second class Bachelor's degree in Aeronautical Engineering from a recognised university or equivalent. DESIRABLE QUALIFICATION : (i) Master's degree in Aeronautical Engineering with specialisation in propulsion or Flight Mechanics/Aerodynamics. (ii) Working knowledge of computers and programming language.

Item No.28 : 1 Post (ST) – ESSENTIAL QUALIFICATION :At least second class Master's degree in Psychology with specialisation in Clinical/Communication/ Social/Experimental Psychology from a recognised university or equivalent. DESIRABLE QUALIFICATIONS: (i) Ph.D degree in Psychology. (ii) Flair for writing audio-visual entertainment scripts.

Item No.29 : 4 Posts (SC-2,ST-2) – ESSENTIAL QUALIFICATIONS: At least second class Bachelor's degree in Mechanical Engineering from a recognised university or equivalent. DESIRABLE QUALIFICATIONS Master's degree in Mechanical Engineering.

The following posts are being advertised for the fourth time so as to fill up reserved posts out of candidates belonging to Scheduled Caste and Scheduled Tribe Communities.

Item No. 30 : 1 Post (SC) – ESSENTIAL QUALIFICATIONS : At least second class Master's degree in Psychology/with specialisation in Clinical/Communication/Social Experimental Psychology from a recognised university or equivalent. DESIRABLE QUALIFICATIONS : (i) Ph.D. degree in Psychology. (ii) Flair for writing audio-visual entertainment scripts.

Item No.31 : 4 Posts (ST-4) – ESSENTIAL QUALIFICATIONS : At least second class Bachelor's degree in Electronics Engineering from a recognised university or equivalent. DESIRABLE QUALIFICATIONS : Master's degree in Electronics Engineering with specialisation in Computer Networks/Microprocessors/Digital Communications/Sensors/Monitoring devices/Microwaves.

Item No. 32 : 1 Post (ST-1) – ESSENTIAL QUALIFICATIONS : At least second class Bachelor's degree in Mechanical/Aeronautical Engineering from a recognised university or equivalent. DESIRABLE QUALIFICATIONS: Master's degree in Mechanical/Aeronautical Engineering from a recognised university or equivalent.

The following posts are being advertised for the fifth time so as to fill up reserved posts from out of candidates belonging to Scheduled Caste and Scheduled Tribe Communities.

Item No. 33 : 1 Post (SC) – ESSENTIAL QUALIFICATIONS : At least second class Bachelor's degree in Rubber Technology from a recognised university or equivalent. DESIRABLE QUALIFICATIONS : Master's degree in Rubber Technology.

Item No. 34 : 1 Post (ST) – ESSENTIAL QUALIFICATIONS: At least second class Bachelor's degree in Fire Engineering from a recognised university or equivalent. DESIRABLE QUALIFICATIONS : Master's degree in Fire Engineering or experience in fire research.

Item No. 35 : 1 Post (ST) – ESSENTIAL QUALIFICATIONS: At least second class Bachelor's degree in Paint Technology from a recognised university or equivalent. DESIRABLE QUALIFICATIONS : Master's degree in Paint Technology.

GENERAL CONDITIONS

1. Promotion Prospects : DRDO offers excellent opportunities for career advancement as Scientists. Result-oriented motivated scientists can look forward to promotions to following grades of scientists:

(i) Scientist 'C' : Rs. 3000-4500, (ii) Scientist 'D': Rs. 3700- 5000, (iii) Scientist 'E': Rs. 4500-5700, (iv) Scientist 'F' : Rs. 5100-6300, (v) Scientist 'G': Rs. 5900-7300.

2. Higher starting salary may be granted to the candidates whose performance is exceptionally brilliant in the interview.

3. Age Limits : (i) For Scientist 'B' : Not exceeding 28 years'. (ii) For Scientist 'C' not exceeding 35 years', (iii) For Scientist 'D' and Scientist 'E' not exceeding 45 years', (iv) For Scientists 'F' & 'G' not exceeding 50 years'. Age is relaxable by 5 years in case of Govt. servants and those belonging to Scheduled Caste and Scheduled Tribe Communities. Crucial date for determining age is 25th Jan 1992.

4. Method of applying : Neatly type-written applications should be sent to Director, Recruitment & Assessment Centre, Lucknow Road, Timarpur, Delhi-110 054. Preferably by registered cover, superscribed "Applications for the post of Scientist "_______" Item No. "____" on plain paper in the prescribed format (reproduced below) accompanied by a crossed non-refundable Postal Order of the value of Rs. 8/- drawn in favour of Senior Accounts Officer, Recruitment & Assessment Centre, DRDO, payable at New Delhi. There is no fee for SC/ST candidates. Last date of receipt of applications is **25th Jan 1992**. In respect of candidates from Andaman & Nicobar Islands, Lakshadweep and abroad, last date of receipt of applications is **8th Feb 1992.**

5. Method of Selection: A written test may be conducted for certain posts at selected places. No TA/DA would be admissible for this purpose. Persons called for interview would be reimbursed actual train/bus fare by shortest route limited to second class rail fare (Ist class rail fare for Scientist 'F' and Scientist 'G' posts) from the normal place of residence to the place of interview.

6. Only Indian nationals need apply.

7. Candidates should send two self-addressed unstamped envelopes of 23x10 cms size along with the application.

8. One copy of recent passport size photograph should be pasted on right hand corner of the first page of the application.

9. Attested copies of certificates/testimonials should be attached

to the application form. Self attested copies will be accepted. NO ORIGINALS SHOULD BE FORWARDED.

10. Candidates will have to produce original certificates at the time of interview.

11. Incomplete applications or those received late will be rejected and no correspondence would be entertained in this regard.

12. The prescribed Essential Qualifications are the bare minimum and the mere possession of the same does not entitle candidates to be called for interview. Where the number of applications received in response to an advertisement is large and it will not be convenient or possible for the Recruitment & Assessment Centre (RAC) to interview all these candidates, the RAC may restrict the number of candidates for interview to a reasonable limit on the basis of qualifications and experience higher than the minimum prescribed in the advertisement or by holding a screening test.

13. Candidates working in Government/Public Sector Undertakings/Autonomous Organisations must apply through proper channel. They shall not be interviewed if they fail to produce a 'No Objection' Certificate from their employer at the time of interview.

14. Candidates desirous of applying for more than one post may apply separately for posts indicating Item No. of the posts.

15. Candidates on appointment will have the opportunity to carry out Ph.D with external registration and may be sponsored for doing M.Tech.

16. Opportunities are also available for study leave for carrying out higher studies abroad.

17. DRDS Officers may be sponsored for training abroad.

18. Though initial place of posting is indicated against some of the posts yet candidates have the liability to serve anywhere in India.

19. Handwritten applications will not be entertained.

20. Number of posts against each item is tentative and may vary.

21. All extra sheets used by the candidates MUST be duly authenticated by them.

22. Knowledge of French, German, Russian, Japanese and Chinese is a desirable qualification for all posts.

23. Concessions admissible to employees of Snow & Avalanche Study Establishment while serving in field area near Manali.

(i) Free ration at the scale as admissible to service personnel of equivalent status.

(ii) Free frusnished single living accommodation as admissible to service personnel of equivalent status.

(iii) Winter clothing on loan as per the scale laid down.

(iv) Free Medical Treatment.

(v) Avalanche pay @ Rs. 250/- p.m. for the duration of deployment in avalanche prone area w.e.f. 01st Nov. to 30th April.

24. CANVASSING IN ANY FORM WILL MEAN DISQUALIFICATION.

PROFORMA APPLICATION

Application for the post of Scientist......., Item No. ......
* (To be indicated)

1. Advertisement No. :

2. Item No.

3. Details of Postal Order(s)
No., Date and Amount

Affix Passport size latest Photograph

4. Name in Full (Sri/Smt/Km) (in block letters)

5. (a) Date of Birth
(in Christian era in figures)
(b) Age as on 25th Jan 1992

6. Nationality :

7. Marital Status :

8. Father's/Husband's name :

9. Address for correspondence :

10. Permanent Address :
(in block letters with pin-code)

11. Nearest Railway Station :

12. Whether belong to SC/ST :
(If yes, attach certificate)

13. Educational Qualification :

Sr. No.	Exam* Passed	University/ Institution/ Board	Year of Passing	Subjects taken	Percentage of marks	Division

*In chronological order from Xth standard (SSLC/HS/HSC) onwards.

14. Professional Training :

Organisation	Period From To	Details for Training

15. Employment Record :

Name & address of employer	Period of service from To	Designation of the post held/Name of Estt.	Scale of pay of each post	Detailed description of work*	Reason for leaving

* Attach separate signed sheets if necessary.

16. Present Basic pay :
Total emoluments :
Salary expected :

17. (a) Are you a Central/State Govt Servant :
(b) If not, whether an employee of public sector undertaking/autonomous body/private body :

18. Minimum joining time required :

19. Resume of research work, experience, if any:
(Attach separate signed sheet(s), if necessary)

20. No. of papers published :
(Attach details in separate signed sheets)

21. Field of special interest :

22. Are you under any contractual obligations to serve Central/State Govt/Any other Public Sector Undertaking or Autonomous body and if so, give details :

23. Details of relatives already employed in DRDO :

Name of Relatives	Relationship	Lab/Estt. in which employed	Post held

24. Have you applied for any post in DRDO during the past two years? If yes, give particulars :

Sr. No.	No and Date of Advt.	Name of Post Discipline	Date of Interview	Remarks

25. Any other information you may wish to add (Use separate sheet if necessary)

26. Declaration :

I declare that the foregoing information is correct and complete to the best of my knowledge and belief and nothing has been concealed/distorted. If at any time, I am found to have concealed/distorted any material information, my appointment shall be liable to summary termination without notice. I will, if and when required, take up duty in the discharge of government assignments anywhere in India.

Place:
Date:

Signature of Candidate

davp 91/593

CLASSIFIED ADVERTISEMENTS

UNIVERSITY OF LUCKNOW

Advertisement No. 1/1992

WANTED

PROFESSORS (Rs.4500-150-5700-200-7300):

1. One in Sociology
2. One in Economics

READERS (Rs.3700-125-4950-150-5700)

3. One in Labour Economics, Deptt.of Economics
4. One temporary in Social Work(likely to be made permanent)
5. One temporary in Mathematics(likely to be made permanent)
6. One temporary in Physics(likely to be made permanent)
7. Three in Education

LECTURERS (Rs.2200-75-2800-100-4000):

8. One temporary in Public Administration(likely to be made permanent)
9. One in Chinese
10. One in French
11. Three temporary in Physics(likely to be made permanent)
12. One temporary in Zoology(likely to be made permanent)
13. Two in Applied Economics, Faculty of Commerce.

QUALIFICATIONS:

As laid down in the Lucknow University First Statutes.

GENERAL:

Benefits of Provident Fund/Pension available as admissible under the rules. Period of probation for permanent posts is one year. It is not necessary to fill any/all of the advertised posts and number of post can be altered.

Prescribed application forms can be obtained, free of cost, by sending a self-addressed envelope size 23x10 cm. with postage stamps worth Rs.7/- from the Office of the Registrar. Last date for submission of applications, duly completed in all respects, with recent testimonials,publications etc.and a Bank Draft of Rs.15/-drawn in favour of the Registrar, Lucknow University, payable at any Bank in Lucknow, is **January 30, 1992**. Candidates who are in service should send their applications through proper channel.Application Forms to outstation candidates will be sent up to **Jan 22,1992**. Canvassing will be a disqualification.

Those who have applied for the posts at Sl.No.2,3,7,9,10 and 13, in response to Advertisement No.4/1989 of Dec.1989,need not apply afresh as their old applications will be considered. Such candidates may, however,intimate their additional qualifications and attainments during this period for their specialization in the respective field.

B.P.D.Mehrotra
Dy. REGISTRAR(Admn.)

INDIAN COUNCIL OF MEDICAL RESEARCH

Applications are invited up to **20th February, 1992** for the post of Directors under the following Council's Institutes/Centres :-

1. AT THE INSTITUTE FOR RESEARCH IN REPRODUCTION, BOMBAY

The Institute for Research in Reproduction is one of the leading research Institute in the country working in the frontier areas of reproductive biology and contraception research. Currently, the Institute is engaged in the different aspects of basic reproductive biology and contraception research with special emphasis on protein peptide hormones for male and female fertility regulation, immunology and neuroendocrinology. The Institute has well equipped laboratories with sophisticated equipment and other infrastructural facilities for conducting laboratory/clinical studies. This is a senior level administrative position and the Director would be required to play the role of a team leader for different scientific groups and which are engaged in the different aspects of reproduction research in formulation of research programmes/projects and organising/co-ordinating the team work. At present, out of total about 250 staff working at the Institute, more than 60 are scientists and technical staff with the different research backgrounds and disciplines. The Director would be provided a suitable residential accommodation at Bombay.

Qualification & Experience : Essential : Ph.D. in life sciences/applied biology or M.D. in Obst. & Gynae./paediatrics/medicine with 15 years of research experience in the field of reproductive biology and contraception research. **Desirable:** Experience in frontier areas of basic/applied research in the field of reproductive biology/contraception with original work as evidenced by publications.

Job Requirements: This is a senior level administrative position where the Director would be expected to play the role of team leader for co-ordinating the research programmes of different scientific groups working in the Institute on various aspects of reproductive biology and contraception research.

2. AT THE ENTEROVIRUS RESEARCH CENTRE, BOMBAY

This Centre is engaged in Scientific Research in different aspects of problems in poliomyelitis and polio viruses. The Centre has well equipped laboratories and other infrastructural facilities for conducting research studies in poliomyelitis.

Qualifications & Experience : Essential : M.D./Ph.D./D.Sc. or equivalent postgraduate qualification in Virology/Microbiology or related discipline with research/teaching experience of 15 years in the field of Virology with original work to the credit of the candidate and experience in disciplines related to Enteroviruses. Original work as evidenced by publications. **Desirable :** Administrative experience in responsible positions.

Job Requirements : It is a top research management post in the field of virology. The Director is required to provide high level leadership in the formulation of research programmes and projects and in organising/co-ordinating team work. He will have the overall responsibility for the working of the Centre within the framework of the Council.

Salary/Conditions of Service : The scale of pay attached to the post is Rs. 5900-200-6700 plus allowances as per Central Govt. Rules and NPA of Rs. 950/- p.m. for medical graduates only. Higher initial pay can also be considered. Free medical aid and leave travel concession are also permissible for the employee and his family as per Govt. rules.

Age : Below 50 years. SC/ST candidates allowed relaxation in accordance with Govt. of India Rules.

Educational qualifications relaxable in the case of candidates otherwise well qualified. Benefits of pension admissible. Private practice is not allowed. However, non-practising allowance is admissible to medical graduates only as per rules of the Council. Application forms can be obtained from the office of the **Director General, Indian Council of Medical Research, Ansari Nagar, Post Box No. 4508, New Delhi-110 029** to whom the complete application form should be sent accompanied with crossed postal order for Rs. 8/- (No fee for SC/ST candidates) made out in the name of the Director General, ICMR, New Delhi. Applications without postal order will not be entertained. Candidates called for interview will be paid 1st class rail fare by the shortest route. No TA/DA is admissible for joining the post or on termination of appointment. Application from the employees working under the Central/State Govt./Semi and Govt. controlled undertakings should be sent through the employers and the received before the closing date alongwith the certificate that the applicant will be relieved within three months of receipt of appointment orders. Advance copies will be considered subject to the proviso that the certificate will be produced at the time of personal discussion. Applications received after the closing date will not be considered. At the time of interview they should produce "No Objection Certificate" from their employer. The name of the post and of the Institute/Centre must be indicated in the application. Incomplete application will not be entertained. Separate applications should be submitted for each post.

UNIVERSITY OF HYDERABAD

(A Central University established in 1974 by an Act of Parliament)

Employment Notification No.RECTT/10/91 dt. 21-12-91

The University invites applications for the following faculty positions:

Professors: Statistics(1); Physics(1); Chemistry (1); Economics (3); Political Science (1 – temporary against a leave vacancy but likely to be made permanent); Sociology (2); Anthropology (1); Communication (1); Comparative Literature(1).

Readers: Applied Mathematics (1); Statistics (1); Computer Science(4); Physics (2); Chemistry (7); English (1); Urdu (1); Japanese(1); Sanskrit (1); Applied Linguistics (1); Modern Indian Language (1); Economics (1); Regional Studies (1); Dance- Bharatnatyam (1); Dance-Kuchipudi(1); Theatre Arts (2); Painting(1).

Lecturers: Statistics (1); Physics (3); Life Sciences (2); Chemistry(3); English (1); Hindi (1); Urdu (1); Comparative Literature(1); Chinese (1); History(1 – under Sp. Asst. Programme); Anthropology (1); Dance (1); Communication(1).

Note : Those who applied for Chemistry faculty positions in response to the advertisement No.Rectt/5/89 dt. 31-5-89 may send their updated bio-data. They need not apply afresh.

Scales of pay and gross emoluments at the minimum of the scales are as follows:

POST	SCALE OF PAY	GROSS MONTHLY EMOLUMENTS AT THE MINIMUM OF PAY
Professor	Rs. 4500-7300	Rs. 7,385.00
Reader	Rs. 3700-5700	Rs. 6,385.00
Lecturer	Rs.2200-4000	Rs. 4,070.00

15% and $7\frac{1}{2}$% of posts of Lecturers are reserved for SC and ST candidates respectively. 3% of the Lecturer posts is reserved for suitable physically handicapped candidates.

The prescribed application form, particulars of qualifications, experience, areas of specialisation etc., for various teaching posts can be had either in person or by post by sending postage stamps worth Rs. 3/- superscribing on the top left corner of the envelope "Request for application for the post of ...." to the Assistant Registrar (Recruitment), University of Hyderabad, P.O. Central University, Hyderabad- 500134.

The last date for receipt of applications duly filled in is 14.02.1992.

Hyderabad
Date : 21-12-1991

P.Mural Krishna
REGISTRAR

SK UNIVERSITY OF AGRICULTURAL SCIENCES & TECHNOLOGY

Shalimar Campus
Srinagar- 191121 (J&K)
(Post Box No: 262)

Advertisement No: 01 of 1991

Applications on prescribed form are invited for the following categories of posts :-

I. ASSOCIATE DIRECTOR, RESEARCH,

(UGC PAY SCALE : Rs. 4500-7300)

(1) Agriculture (2) Animal Sciences & Live Stock Farms

II. PROFESSOR/CHIEF SCIENTIST,

(UGC PAY SCALE: Rs. 4500-7300)

(1) Animal Health (2) Anatomy/Bio-Chemistry/Physiology/Pharmacology (3) Agronomy (4) Pomology (5) Olericulture (6) Floriculture (7) Plant Pathology (8) Forestry (9) Soil Science (10) Sericulture (11) Environmental Sciences (12) Instrumentation

QUALIFICATIONS AND EXPERIENCE

(a) **Essential:** (i) Doctorate Degree in the concerned subject (ii) 12 years teaching and/or research experience not below the rank of Assistant Professor or equivalent. of which 5 years should be in the rank of Associate Professor or equivalent (iii) Good research experience evidenced by published research work.

(b) **Desirable:** Experience to provide leadership in the concerned discipline/subject.

(Note) (i) For Associate Director Agriculture, candidate should have requisite qualifications and experience in crop production/improvement and for Associate Director Animal Sciences & Live Stock Farms the candidate should have requisite qualification in Animal Production/Animal Breeding/Nutition/Management/Re-production.

(ii) For Animal Health, candidates having requisite qualifications and experience in the field of Veterinary Microbiology/Pathology/Parasitology or Veterinary Public Health will also be eligible.

(See also Elucidation)

(III) ASSOCIATE PROFESSOR/SENIOR SCIENTIST,

(UGC PAY SCALE: Rs. 3700-5700)

(1) Anatomy (2) Veterinary Physiology (3) Veterinary Public Health & Epidemology (4) Veterinary Pathology (5) Veterinary Medicine (6) Surgery/Radiology (7) Reproduction and Gynaecology (8) Extension Education (Veterinary) (9) Animal Breeding (10) Animal Nutrition (11) Animal Products Technology (12) Fisheries (13) Poultry (14) Biochemistry (15) Agronomy (16) Agriculture Engineering including Farm Power Machinary/Water Management/Process Engineering (17) Entomology (18) Environmental Sciences (19) Agricultural Meteorology (20) Extensin Education (Agriculture) (21) Pomology (22) Olericulture (23) Floriculture (24) Plant Pathology including Systemic Mycology/Epidemology (25) Plant Breeding & Genetics (26) Forestry (27) Soil Science including Soil Survey/Soil Physics (28) Silk-worm Breeding/Sericulture (29) Ariculture Economics (30) Instrumentation (31) Fruit Technology.

QUALIFICATION AND EXPERIENCE

a) **Essential :** (i) Doctorate Degree in the concerned subject (ii) Seven years' experience in teaching and/or research of which four years should be in the rank of Assistant Professor or equivalent.

b) **Desirable :** Research experience as evidenced by publications.

c) **Relaxation:** In the discipline of Veterinary Sciences & Animal Husbandry, Agricultural Engineering and Forestry, the Doctorate Degree is relaxable. Candidates selected and appointed without Doctorate Degree will, however, be required to obtain Ph.D within six years of their joining, failing which increments will be stopped.

(See also Elucidation)

IV. ASSISTANT PROFESSOR/JUNIOR SCIENTIST,

(UGC PAY SCALE : Rs. 2200-4000)

(1) Veterinary Physiology (2) Veterinary Toxicology (3) Veterinary Public Health and Epidemology (4) Veterinary Parasitology (5) Veterinary Pathology (6) Veterinary Medicine (7) Animal Reproduction and Gynaecology (8) Animal Breeding (9) Animal Nutrition (10) Animal Products Technology

(Meat/Milk) (11) Fisheries (12) Livestook Production and Management (13) Animal Health/Production (Med, Microb, Path, Para, PHE, Surg/Breeding, Nutrition, Reproduction) (14) Agronomy (15) Agrostology and Fodder (16) Agricultural Engineering including Soil and Water Conservation Engineering (17) Entomology (18) Environmental Sciences (19) Agricultural Engineering including Soil and Water Conservation Engineering (17) Entomology (18) Environmental Sciences (19) Agricultural Meteorology (20) Extension Education (Agriculture) (21) Pomology (22) Olericulture (23) Floriculture including (Aromatic & Medical Plants) (24) Plant Pathology (25) Plant Breeding and Genetics (26) Forestry (27) Soil Science (28) Agriculture Economics (29) Instrumentation (30) Bio-Chemistry.

QUALIFICATIONS AND EXPERIENCE

(a) **Essential:** High Second Class Master's Degree or equivalent postgraduate qualification in the concerned subject with two years' teaching and/or research experience or Ph.D in the concerned subject.

(b) **Relaxation:** Experience relaxable in the disciplies of Veterinary Sciences are Animal Husbandry, Forestry and Agriculture Engineering.

(See also Elucidation)

ELUCIDATION

1) Professional Degree (B.Sc.Ag. or B.V.Sc. & A.H. as the case may be) is essential for all posts except post Nos. 11 & 12(II), 14, 18, 26, 28, 30 (III), 11, 18, 29 & 30(IV).

2) Candidates not having professional degree in the concerned field and/or having essential qualifications in discipline/subject other than the specified subject/discipline, but having worked in such discipline/subject, shall require two years' additional experience over and above the prescribed essential period.

3) For Post Nos. 11 (II), 18 (III) and 18 (IV) candidates must have specialized in System Dynamics and Management/Environmental Conservation Pollution Control/Toxicology at Doctorate/PG level and must have prescribed experience in the concerned field of specialization.

4) For post Nos. 12 (II), 30(III) and 29(IV), candidates must have M.Tech/Ph.D (Physics) with specialization in instrumentation and the prescribed experience in handling and maintenance of modern laboratory equipments and gadgets used in bio-sciences research laboratries.

GENERAL CONDITIONS

1. Allowances and Provident Fund : As per rules of this University
2. Age : Not more than 55 years on Ist January, 1991
3. Nature of appointment : Temporary with 2 years' probation. However, candidates can be considered for appointment on deputation also on mutually agreeable terms
4. In-service candidates : In-service candidates should forward their applications through their employer and will be treated as direct recruits. Basic salary of selected/eligible candidates will be protected on production of documentary proof. University shall not be responsible for extention or termination of their lien by their parent employer.

MISCELLANEOUS INSTRUCTIONS

1. Application forms can be had from the Registrar, SK University of Agricultural Sciences & Technology, Shalimar Campus, Srinagar- 191121 Post Box No: 262, free of cost. While making request for the application forms, please send a self-addressed envelope, 10"x4", fully stamped (Rs. 3.00) specifying the name of the post for which application form is intended.
2. Application forms complete in all respects supported by attested copies of certificates and testimonials should reach the office of the Registrar, SK UNIVERSITY OF AGRICULTURAL SCIENCES AND TECHNOLOGY, SHALIMAR CAMPUS, SRINAGAR-191 121 Post Box No: 262/CAMP OFFICE JAMMU by or before **February 29, 1992** alongwith a non-refundable application fee of Rs. 30/- (Rs. 20/- in case of Scheduled Caste/Scheduled Tribe Candidates) in the form of crossed Indian Postal Order drawn in favour of Comptroller, SK Univeristy of Agricultural Sciences and Technology, Shalimar Campus, 191121 Post Box No : 262. Applications received after the prescribed date will not be entertained.
3. Eligible candidates will be informed about date and place of interview through an intimation under certificate of posting and will be paid to and fro second class rail/road fare between the place to which the intimations are posted and the place of interview. However, University will not have any responsibility for non-receipt or delayed receipt of the intimation by a candidate.
4. Persons who have previously applied for various posts in response to Advertisement No. 01/1989 but interviews have not been conducted so far, may apply afreash.
5. Applying for any position advertised hereinabove does not by itself entitle an applicant to be called for interview.
6. The appointment will be made either in the grade advertised or in lower grade depending upon qualifications/experience of the selected candidates.
7. University reserves the right to withdraw any or all posts, and/or defer filling up any or all the posts, advertised here-in-above without assigning any reason.

H.M. Tahir
REGISTRAR

INDIAN COUNCIL OF MEDICAL RESEARCH

INTERNATIONAL RESEARCH FELLOWSHIP OF NATIONAL INSTITUTES OF HEALTH (U.S.A)

Applications (on prescribed form) are invited from candidates for award of International Research Fellowships of the National Institutes of Health, U.S.A. for specialised training in that country. The fellowship can be offered for one or two years, candidates applying for one year can not be granted an extension for second year subsequently.

ELIGIBILITY REQUIREMENTS

To be eligible for an International Research Fellowship, an applicant must:

1. hold an earned doctoral degree (Ph.D., M.D., D.O., D.D.S., D.V.M., O.D., D.P.M., Sc.D., Eng.D., Dr. P.H., or D.N.S.) or the equivalent in a health Science field at the time of submission of an application to the Nominating Committee;
2. have earned the doctoral degree within 10 years of the application receipt date (should have received their doctoral degree on August 1, 1982 or thereafter);
3. have demonstrated the ability to engage in independent basic or clinical research;
4. submit a research proposal in an area of one of the biomedical or behavioural sciences;
5. have a sponsor in the United States at a non profit institution who has agreed to accept the applicant for research on the applicant's proposed project;
6. have assurance from a nonprofit institution in the home country that there is a position to which the applicant can return after completion of the fellowship;
7. be proficient in spoken and written English;
8. should not have been in the United States on J-1 visa for more than two months if they apply for a two-year fellowship or for more than 14 months if they apply for a one year fellowship;
9. not be a U.S. citizen or a U.S. permanent resident.

Application forms and details of the fellowship can be obtained **before Ist April, 1992 from the Director General, Indian Council of Medical Research, Ansari Nagar, Post Box No. 4508, New Delhi-110029.** The last date for receipt of completed application form by ICMR is **15th April, 1992.** Application forms received after the closing date will not be considered.

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University News

MONDAY, JANUARY 20, 1992

Rs. 5.00

C.F.T.R.I., MYSORE

Sri Sathya Sai Institute Convocation

Bhagavan Sri Sathya Sai Baba leading the procession at the Tenth Convocation of the Institute. On his right is Shri P.V. Narasimha Rao, Prime Minister of India, who delivered the convocation address, and on his left is Prof. S. Sampath, Vice-Chancellor.

IGNOU

INDIRA GANDHI NATIONAL OPEN UNIVERSITY

INVITES

Application from Indian Citizens possessing requisite qualifications for filling up the post of Librarian in the Indira Gandhi National Open University in the pay scale shown against the post plus allowances as admissible under University rules.

LIBRARIAN : 1 post.

Scale of Pay : Rs. 4500-150-5700-200-7300.

Qualification & Experience : Essential :

i) Master's degree in Library Science/Information Science/Documentation with at least fifty-five per cent marks or its equivalent grade and a consistently good academic record.

ii) One year specialisation in an area of information technology/Archives and Manuscript keeping/Master's Degree in an area of thrust in the institution, and

iii) At least ten years as a Deputy Librarian in a University Library or fifteen years' experience as a College Librarian.

iv) Evidence of innovative library service and organisation or published work.

Desirable: M.Phil/Ph.D. Degree in Library Science/Information Science/Documentation/Archives and Manuscript keeping.

GENERAL CONDITIONS :

i) The University reserves the right to: a) relax any of the requirements with reference to age and experience in exceptional cases and/or in the case of persons already holding comparable positions on a regular basis in a University/Research Institution; b) consider names of suitable candidates who may not have applied, on the recommendations of the Selection Committee; c) not to fill up the vacancy advertised. ii) Since applications received may be shortlisted, merely possessing the prescribed qualification and the requisite experience would not entitle a person to be called for interview. iii) No interim queries or correspondence regarding issue of call letters for interview or selection of candidates for the post will be entertained at any stage. iv) Reservation and relaxation in age for SC/ST candidates is as per Govt. rules. v) Candidates called for interview from outside Delhi will be paid single second class railway/bus fare to and fro Delhi by the shortest route from their place of residence on production of rail/bus tickets or photocopy thereof. vi) The selected candidates may be posted in and are liable to be transferred to any of the University's offices in the country. vii) Canvassing in any form will be viewed seriously and candidature of such a person(s) will be summarily rejected.

HOW TO APPLY :

Application forms can be had from the Recruitment Cell, Block 4, Room No. 18, **Indira Gandhi National Open University, Maidan Garhi, IGNOU P.O., New Delhi-110068** in person or on written request by post which must be received in the University office before **10.2.1992.** All such requests should be accompanied by a self-addressed envelope (size 13 cms x 28 cms) bearing postage stamps worth Rs.2/- **Requests for application forms which are not accompanied by the self-addressed stamped envelope or accompanied by inadequately stamped envelope will not be entertained.** Completed application form along with attested copies of certificate in support of qualification, experience, age and caste (in the case of SC/ST candidates) etc. should reach the Registrar at the above address on or before **2.3.1992.** Applications received after the due date or incomplete in any respect and/or in the case of those in Government/Semi- Government/University not received through proper channel will not be considered at all. However, they may send advance copy of their application before the due date followed by application through proper channel later.

Advt. No. 1/Rectt./91-92

REGISTRAR

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Editor :
SUTINDER SINGH

29 JAN 1992

What Power Can EC Delegate to VC?

N.L. Mitra*

To what extent Can the Executive Council of a university delegate its authority to its Vice- Chancellor? University Act generally provides for the distribution of powers amongst its various authorities. It is observed by the Supreme Court of India that it is a settled principle that when the Act prescribes a particular body to exercise a power, it must be exercised only by that body. It cannot be exercised by others unless it is delegated. The law must also provide for such delegations.[1] In Halsbury's Laws of England[2] the principle is very succinctly stated thus : in accordance with the maxim *delegatus non potest delegare,* a statutory power must be exercised only by the body or officer in whom it has been confided, unless sub-delegation of the power is authorised by express words or necessary implication. There is a strong presumption against construing a grant of legislative, judicial or disciplinary power as impliedly authorising sub-delegation. Lord Denning's observation in *Barnard* v *National Dock Labour Board*[3] is very pertinent in this respect. According to him while an administrative function can often be delegated, a judicial function rarely can be. No judicial tribunal can delegate its functions unless it is enabled to do so expressly or by necessary implication.

Executive Council is a policy-making and the highest executive body of the university. It has some legislative functions of rule making and at the same time some quasi-judicial functions like taking disciplinary action against the staff and the like. A Vice Chancellor on the other hand is the chief academic and executive officer of his University.... He must be the 'Keeper of the University's conscience', both setting the highest standard by example and dealing promptly and firmly with indiscipline and malpractice of any kind. All this he must do and it can be done as constitutional ruler, he has no, and should not have, autocratic power[4]. The Vice-Chancellor of university is the academic and administrative leader and executes the policy into action. It is quite natural that often the Executive Council delegates some of its executive functions.

University Act generally provides two types of provisions; one for procedure of delegation of authority by the Executive Council to the Vice-Chancellor and to other university officers and the other for emergency power of the Vice-Chancellor. If for any power of the Executive Council delegatory provision is not expressly or impliedly provided, the Executive Council cannot empower the Vice-Chancellor or any other officer to do it. Take for example, in the *Marathwada University* v *Seshrao Balwant Rao Chavan*[5], the Act of the University provided that the University could delegate any of its powers (except the power to make Ordinances) to the Vice- Chancellor, subject to the approval of the University. The fact of the case is that the respondent was the Deputy Registrar of the University and was working as Controller of Examination when the Chief Executive was on leave. One Mr. Swaminathan was entrused with the printing works needed to conduct university examinations. He submitted his bills amounting about Rs.6,00,000 for works performed by him. These bills were not cleared immediately. Mr. Swaminathan submitted a petition to the Prime Minister

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**Professor of Law, National Law School of India University, Nagarabhavi, Bangalore - 560 072.*

who forwarded the petition to the University for immediate action. This led to an enquiry to find out whether the bills were deliberately kept pending with any ulterior motive. The Committee headed by the Vice-Chancellor made certain observations against the respondent. The Executive Council appointed another Committee to thoroughly examine the matter. This Committee submitted its report holding that there was no delay in clearing the bill and whatever delay was there was justified in the circumstances in which the Internal Audit Department finding the bill to be in excess of Rs.48,000/- and odd. This report was placed before the Executive Council which without taking any decision entrusted the matter to the Vice-Chancellor who agreed to take a decision within a month. The Vice-Chancellor appointed one Mr. Motale, an Advocate to enquire into the matter. On the report of this person the V-C served a show cause notice and following usual procedure of considering the reply the V-C decided to dismiss the respondent and accordingly the order was served. This action was placed in the EC's meeting afterwards and was ratified.

In this case therefore issues were (1) Did the power of the Vice-Chancellor 'to regulate work and conduct of officers'[6] include power to take disciplinary action for removal? (2) Was the power of disciplinary action for removal of an officer of the University a power vested in the Executive Council and had it validly delegated the power? (3) Could it be included in the emergency power of the VC? The Court observed that the Vice Chancellor has a pivotal position as the principal executive officer who also carries with him the implied power. It is the magisterial power which is plainly to be inferred. This power is essential for him to maintain domestic discipline in the academic and non-academic affairs. In a wide variety of situations in the relationship of tutor and pupil, he has to act firmly and promptly to put down indiscipline and malpractice. It may not be illegitimate if he could call to aid his implied powers and also emergency powers to deal with all such situations.[7] As per the Act the Vice-Chancellor had the power to regulate the work and conduct of the officers. But the power of appointment of officers and other employees of the University was stipulated as the statutory power of the Executive Council.[8] The Court held that in that circumstance power to remove an official also was within the power of the EC. Therefore, power 'to regulate the work and conduct of the officers' did not include power of removal.

So the main issue was whether the power was delegated to the V-C. It was held that the delegation was not validly made since the approval of the Chancellor was not obtained on the matter of delegation. And since, there was no proper authentication the action taken by the V-C was out of and disproportionate to his power. Could the action be ratified? In the above situation the Court held that approval of, the action by the EC was not a subsequent delegation either since delegative procedure was not fully adhered to. Here the objection of the Court was basically to the issue of procedure of delegation not being followed.

Looking to the nature of problems the delegation may be required on any one of the following issues :

(a) Administrative matters

A Vice-Chancellor being the chief academic and executive officer of the university, is required to administer the policies adopted by the Executive Council. Can a plural body like EC of a university effectively execute any policy it adopts by itself? On this issue Lord Denning observed, 'I see nothing impracticable in that'. Notwithstanding his opinion, plural executive body generally executes all its administrative functions through the chief functional executive. Any act which can be performed through an agent can be executed ordinarily through the V-C Only delegated functions generally cannot be re-delegated. So if any specific function of the General Council or of the Chancellor is delegated to the EC, the EC cannot re-delegate to the VC without specific provision. This type of delegated function of the EC is very rare. Most of the Executive functions of the EC are statutory and hence one which is lawfully done through an agent can be delegated to the VC. And any function that can be done through the agent can also be ratified. The procedure of delegation is generally stipulated by the Act of the university. As for example, the Marathwada University Act stipulated that delegation is to be made with the approval of the Chancellor. So the EC has to pass on the matter to VC with the concurrence of the Chancellor. If a prior delegation is not made any action of the VC can be ratified through the same procedure. Generally, EC passes resolution of actions and directs the executive officers to actualise the resolution of action. In such a case delegation is not formally required.

(b) Quasi-judicial actions

Without specific provision for delegation in the Statute or necessary implication, such powers of the EC cannot be delegated. The Marathwada University Act is generic allowing such types of functions of the EC to be also delegated. Generally speaking the EC does such functions at two stages. In one stage, it appoints an enquiry committee to ascertain facts and in the second stage it suggests a course of action, after providing the 'due process' either directly or through committees. One question may arise here, that is, if the Act does not prescribe any delegative procedure, can the Rule provide this? This depends upon the power of the university as provided in the Rule making power in the Statute itself. It may be noted that if the intention of the Act is that the E C has to be directly responsible for a function, a Rule cannot alter the situation. In some of the university Acts, procedure and extent of delegation is provided for the Rule to specify. It is to be understood at this stage that while for any executive function the delegative power of the EC is liberally interpreted to be implied, in case of quasi-judicial function the need is more for positive prescription. The need for 'necessary implication' is too rigid. Quasi-judicial, functions are dependent on 'procedure established by law.' Selection of a candidate for a post, disciplinary action, removal from service, etc. are instances of such functions.

(c) Legislative functions

EC has several legislative functions like 'rule making'. Such a function is not to be delegated. Here the demand of interpretation is purely positive. Unless the law specifically provides, such a power cannot be delegated. There is no question of trying to understand any 'necessary implication'. In fact no University Act can be cited which has provided for such a delegation. Of course, in drafting, proposing or amending any Rule, the Vice-Chancellor takes a leading role. In fact here the role is like the leader of the House.

On the issue of ratification

In the *Marathwada University* case^9, the Executive Council resolved subsequent to the action taken by the University. The resolution runs like this :

"Considering the issues, the Executive Council resolved as follows:

1. The Executive Council at its meeting held on March 22, 1979, had by a resolution given full authority to the Vice-Chancellor for taking further proceedings and decision in both the cases of the defaulting officers,
2. In exercise of above authority, the Vice-Chancellor appointed an Inquiry Officer and as suggested by the Inquiry Officer issued show cause notices, obtained replies from the officers and lastly ordered for terminating their services.

It was further resolved that ....

i) There has been no inadequacy in the proceedings against both the officers;

ii) The punishment ordered against both the officers is commensurate with the defaults and allegations proved against both the officers; and

iii) The Executive Council, therefore, wholly endorses the actions taken by the then Vice-Chancellor against both the officers."

The ratification on principle is *ex post facto* authority. Here the provision of delegative power is not enough, the procedure is also to be examined because in all quasi-judicial and judicial functions the procedure is as important, if not more, as the substance. In administrative functions, the V-C may act as an agent. His functions are deemed to be the functions of the EC. But in delegated functions the V-C is empowered to function in his own authority since he is delegated the complete authority. In judicial functions agency method of functioning is not permitted. In case the Act permits the delegation through a procedure, the whole procedure is to be followed whether the delegation is 'prior' or 'subsequent'.

As such in the Marathwada case had the Chancellor consented to the 'ratification' the procedure of delegation would have been complete.

To summarise, in all administrative functions the EC may formally delegate through the delegative procedure or authorise the V-C to act as the agent. In 'agency' functioning the formal delegative procedure is not necessary since 'Agent' is a process of appointment, whatever Agent does is by implication done by the principal (*qui facit per alium facit per se*). Judicial functions cannot be normally delegated, as such unless the judicial function is delegated formally according to the prescribed procedure or by necessary implication, V-C is not empowered to perform that judicial function. In case of legislative functions delegation is not ordinarily possible. Had the Chancellor ratified the delegation *ex post facto*, perhaps the procedure of delegation would have been held legal.

References

1. AIR 1989 SC 1587.
2. Vol. 1, 4th Edn. para 32
3. (1953) 1 All.E.R. 1118
4. Report of the University Education Commission, (Vol.1, Dec 1948 to Aug 1949) p. 421.
5. AIR 1989 SC 1582
6. See 11(6) (a) of the Act
7. **Supra, note 5** para 18
8. Sec. 24(1) (xxix)

A New Epistemology of Women Development
A Focus on Complementarity

Kishore Gandhi*

A Dialogue

I begin this piece with my perception of the concept of complementarity between man and woman that flows from a dialogue between Fritjof Capra and Indira Gandhi and it either explicitly or implicitly sets the tone and the approach of this presentation. The first part of this paper deals with the intensely moving discussion between two outstanding minds of our time on a variety of developmental issues that directly or indirectly impinge on the processes of women development. Since I was both a spectator and participant in this discussion, I could perceive a consistent pattern in Indira Gandhi's evolutionary ideas and understanding of the developmental processes from refreshingly positive perspective. It was her psychological and larger approach, based on the principles of interconnection and interdependence that she could even move on to the unchartered territory, sometimes going beyond the limits of time and space, into the infinite possibilities that lie ahead.

This part of discussion may appear to be a digression in the entire narrative but it has deep impact on the pattern of my thinking. It enabled me to form a clear perception of the evolutionary epistemology of women development and therefore, I could not resist the temptation of restructuring this dialogue that will remain among the high moments in my life. As in every area of life and ideas, we are perhaps living on a borrowed ideological framework and value-system without knowing that our minds have become totally colonised and we have lost our access to the beauty and grandeur of our cultural landscape. My conscious or unconscious search was accompanied by a deep personal transformation which resulted in a fundamental challenge to the existing orthodoxies and social order. I could perceive the new vision of reality in Indira Gandhi's world-view, that was spontaneous overflow of her powerful feeling and intuitive thought process.

It was an exciting experience and this excitement gave way to a period of focussing,digesting and integrating. It is a tribute to her genius that she could perceive with wonder and enthusiasm the great cultural transformation at a global level and trigger off a new force for the convergence or coalescence of the ecology, peace and feminist movements. Alas, the activist groups and champions of women emancipation from various bondages are bereft of her comprehensive vision and world-view and are only trying to fulfil their aggressive designs and arrogant behavioural properties through seminars/workshops/international conferences with the backing of national and international media.

The Malady of Modern Women

Antagonism to man has become their way of life and their revolutionary approach is not revolutionary enough to carry forward the developmental processes in an integrated fashion. On the contrary, it is turning into a reactionary approach and producing a set of societal ailments of the western type. There is no simple prescription for the malady of modern woman, where then is the cure for their wounds, often self-inflicted. They are out of step with nature, with self and the laws of historical or evolutionary growth and lack their responsibility and forethinking and in fact are sidetracking the law of consequence. It is in the second part of the essay that I have spelt out new paradigms of women development and articulated forcefully the need forecasting philosophy, policies and programmes of development.

Fritjof Capra is known to the world for his classic publication *The Tao of Physics* in which he has perceptively and coherently spelt out parallels between modern physics and Eastern mysticism. He was deeply moved by the similarity of the experiences of quantum physicists and of Zen Buddhists and the discovery of parallel between Zen Koans and the paradoxes of quantum physics – which he had later described as quantum Koans – stimulated his interest in Eastern mysticism and sharpened his awareness about alternative models of development, based on the principles of interconnection and interdependence, holistic and ecological perception of reality.

But it is in the *Turning Point* that Fritjof Capra has examined critically and creatively the functional viability of the old paradigms and presented a comprehensive critique of their conceptual limitation. The

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scientific methodology was built brick by brick on the pattern of basic building blocks on the Newtonian and Cartesian's classical orthodoxies. It began to shape and mould the developmental processes in diversified areas of life and ideas. It is indeed the clinical and reductionistic approaches and fragmented conceptual framework that determined the advancement of the political, social, economic, educational, cultural, scientific and technological processes, including the process of women development.

Such an effort or approach did facilitate the process of modernization but the charge against this fashionable epistemology of development has never been quantified in terms of its social and environmental costs. No wonder, it has ravaged our environment, put millions out of work because of a capital intensive pattern of development, isolated groups from their own people, disrupted indigenous cultures, destabilised the design of an integral living and brought the institution of family to crucial cross-roads. It is not merely technology and its indiscriminate application to the process of industrialization that have gone astray in terms of fragmenting our life-pattern; but what is most alarming is the emergence of sophisticated theory of knowledge and the fragmented approach to the socialization of the individual in the educational landscape. The proliferation of knowledge has resulted in the micro and macro-specialities and the discipline-bound educational curricula could produce and it did produce a fragmented vision of reality and dehumanized pattern of life-systems.

Glimmering of the New Paradigm

It is through the process of re-conceputulization and re-interpretation of science from philosophical perspective that scientists have discovered the limitation of their classical orthodoxies and got the glimmering of the new paradigm : of the presence of consciousness in the matter. While probing into various frontier areas of science, especially of atomic and sub-atomic world, physicists have discovered the limitation of Newtonian and mechanistic model at the level of galaxies and electrons. This development marked a paradigm shift from the clockwork paradigm to an uncertainty paradigm, from the absolute to the relative.

Science is now giving us a passage to a realm beyond numbers and is opening a fruitful dialogue between various disciplines. The development of transdisciplinary approaches to knowledge corresponding to the creative manifestations of life is our model for tomorrow. The question that we have to address ourselves is that while the evolutionary paradigm of reality is being accommodated in the physical and biological sciences, the social sciences are still anchored in the conceptual framework and theoretical formulations of mechanistic and clinical notions of causality and the two cultures view of relationships. Unless a major breakthrough takes place in the epistemology of social sciences, corresponding to a radical breakthrough in the epistemology of sciences, we will continue to have a fragmented perception of reality and reduce human systems to machine like structures. An integral perspective has yet to find a concrete expression in the institutional and subjective level of human behaviour. To explore the possibility of this breakthrough will require the application of an evolutionary paradigm to our socio-economic systems, educational and cultural institutions, including the process of women development.

It is indeed a paradox of our time that India which claims to be heir to one of the most powerful intellectual and spiritual traditions in the world has become a camp follower and is adopting uncritically the concepts and methodologies that have been declared and rejected in their native habitat. India ought to have evolved and developed its own model of human and social development not only for herself but the entire world that is desperately seeking a new synthesis between the traditional wisdom of the East and the technological progress of the West.

India that Matters

India must be a pioneer in this field. It is time that we shook off our diffidence and plunge boldly into the future, our feet firmly rooted in the cultural heritage and our minds reaching into the infinite possibilities that lie ahead. This, after all, is what India is all about. This was the message that Indira Gandhi had put forth sharply and coherently while explaining India's spiritual landscape to Fritjof Capra in the course of her conversation at the Parliament House in zero hour on 25th February 1982.

It is fascinating to note that India has the distinction of producing outstanding women who have shaped and moulded the political processes from totally new perspective. Indira Gandhi belongs to that galaxy of charismatic personalities who ruled the country at the crucial juncture of its history and with her bold policies and decisive decisions was able to take the country to new heights. It was during her rule that India witnessed a quantum jump in diversified developmental areas, a great leap forward from one orbit to another. She was a leader of great courage, wisdom and perseverance and a symbol of women's emancipation. It is primarily on account of her contribution to the women developmental process that they have acquired tremendous pride and self-confidence in themselves,especially young women. It is joy to see the light in their eyes, often tinged with anger but always reflecting an irrepressible desire to make good, to build a better future for themselves and their nation.

It is indeed a coincidence but coincidence of no less significance that I invited Fritjof Capra to deliver Surendra Mohan Ghosh Memorial Lecture at India International Centre. I also requested Prime Minister Indira Gandhi to preside over it because of her active association with the Memorial Society. Very few people know that she owes her political maturity to Surendra Mohan Ghosh. It was he who brought her to the political power in 1966 and she heavily relied on his counsel about men,matters and developmental issues.

It was at her intiative that I established Surendra Mohan Ghosh Memorial Society. Initially, she conceded to my verbal request of Chairing the Memorial Lecture but finally she could not do so because of the Budget Session of the Parliament and the complex problem of Punjab that was assuming almost threatening proportion. Finally, I requested her for a meeting with Fritjof Capra to which she agreed and it was fixed at her residence at 5.00 p.m. on 25th February 1981 to which Mr. Rajiv Gandhi was also invited. But perhaps due to the compulsions of the Parliament, it was preponed to zero hour and I was informed by her Information Adviser, Mr. H.Y.Sharda Prasad to bring Fritjof Capra at zero hour in the Parliament House.

Fritjof Capra presented her an advance copy of *The Turning Point* and highlighted some of its significant features. She responded with brief comments to his summarized version of the new publication and almost endorsed his thesis that major problems of today are systemic problems which means that they are interconnected. "I believe that life is one and the world is one", she added that "In Indian philosophy we are always told that we are part of everything and everything is part of us. So the world's problems necessarily, are all interlinked". In the course of a long conversation, she was deeply struck by the emphasis on ecological awareness as the basis of new vision of reality that Fritjof Capra has developed in his new publication. She interrupted him by saying that "I have always been very close to nature. I was fortunate to grow up with a strong sense of kinship with the whole of living nature. Its plants and animals, its tones and trees were all my companions". She then articulated that India had an ancient tradition of environmental protection.

The Emerging Ecological Paradigm

In the concluding part, Fritjof Capra focussed upon the implication of the emerging ecological paradigm for economics and technology and how far the soft technology which incorporated ecological principles and are consistent with new set of values could be used in the developmental processes. Indira Gandhi paused for a moment and in a serious tone said that my problem is "how can I introduce new technologies in India, without destroying the existing culture? We want to learn as much as we can from Western countries but we want to keep our Indian roots", she added. She was superb when she spoke about the beauty and durability of old customs, the wood carving, the pottery and the tribal folk dances. It was her concern for ecologically oriented technologies that she promptly posed a problem by enquiring "that what was the best way to select the real valuable and appropriate technology" that would preserve traditional customs and a set of values and at the same time would facilitate the task of improving our impoverished rural environment.

She added that "this is the real problem that I am facing and what shall I do? Do you have any idea?" Fritjof Capra proposed that she could explore the possibility of establishing a technology Assessment Centre on the pattern of Washington Technology Assessment Centre. It could consist of a multi- disciplinary team that would advise her on the social, ecological and cultural impact of new technologies. He even recommended the name of Hazel Henderson who is associated with the Washington Centre. "If you have such an Institution" he ventured with a view towards long term solutions, "with an ecological vision and with a strong sense of traditional culture, it would help you enormously to assess your options and risks".

Feminism

A dramatic shift in the dialogue from the ecological technologies to feminism brings out clearly and coherently Indira Gandhi's perception and philosophy of women development. This is the crux of the matter that needs to be understood by women activists who are either socialized in the Western educational milieu or hypnotised by the aggressive Western suffragist or Women Libs' movement. They are overtly or covertly aping and even recommending the Western parameters of women development which are inconsistent with our cultural ethos. They are in fact completely overlooking the integrated philosophy of women development which Indira Gandhi was trying to translate into the country's policy framework.

Before sounding a word of caution for women activists and my colleagues in the women studies departments of several universities and colleges, I would like to spell out Indira Gandhi's philosophy of women development that flows from the cultural landscape of the country and the emerging evolutionary epistemology of scientific humanism. She believed in the concept of complementarity between man and woman and wanted to evolve a new developmental model not only for her own country but for the entire world that is desperately looking forward to a new perception, a new philosophy.

In the course of discussion, Indira Gandhi bluntly told Fritjof Capra that she was not a feminist and the process of women development in the Indian context is diametrically opposite from the Western philosophical framework. India has the distinction of producing outstanding women in all walks of life in the different periods of history who fought along with men in diversified areas in the freedom movement. Unlike the West, the enlightened personalities of the freedom movement – spanning from Raja Rammohun Roy, Mahatma Gandhi, Jawaharlal Nehru, Maulana Abul Kalam Azad to P.V. Narasimha Rao fought for the emancipation of women from various bondages.

Battle for Total Emancipation

The nationalists recognized that India's non-violence struggle for political independence would not succeed unless it is backed by the empathy and active involvement of women. They consciously and deliberately involved women into the national movement and this effort gave a new momentum to the India's struggle for Independence and at the same time contributed to their emancipation from various bondages. Indira Gandhi believed that the world's rhythm is changing and Indian women can influence it and give it the right beat for a new breakthrough. She regarded women as teachers and guides of society and her perennial message for them was "to strive, to seek, to find and not to yield." She was able to compress several centuries of social evolution into just a single generation and succeeded to a great extent in removing old inequalities and disabilities from which the women in India had suffered for several millennia, primarily on account of foreign invaders. She often articulated that women must lead a fuller and productive life by catching up with the opportunity created by law.

Being an academic-cum-journalist and social activist, I too would have followed the borrowed perception of women activists and educators about women development and might have done a few articles for the print media – as a part of my commitment to produce a fortnightly syndicated feature that appears in the edit page of a large number of leading English and Indian language dailies. Indira Gandhi totally changed my perception and since then I have been building an educational campaign through the print media and seminars on the holistic and ecological agenda of women development for the survival and renewal of the institution of family, the efflorescence of full potentials of the female child personality and stability of Indian society.

Perhaps the time has come that the Indian women must do a ruthless introspection into the cultural ethos of the country and the emerging forces that are unleashed by the processes of industrialisation, modernisation and westernisation and try to strike a delicate balance between the two extreme positions. They must explore a new set of values and the new paradigms of development, by synthesising the classical wisdom of the East and the scientific advances of the West.

Alternative Models

Very little is known about the philosophy, policies, programmes and administrative models of women development. An interactive perception of women development clearly brings out that the opinion is sharply divided amongst the planners and policy makers, the pendulum swinging from Western concept of suffragist and Women Lib movements to the eastern theory of complementarity. By complementarity, we mean that men and women are complementary to each other and must work in close harmony for the evolution and progression of life-systems. It is only by functioning together with unity and mutuality that they can actualize their maximum potentialities and learn to live in harmony with themselves, laws of nature and evolutionary process of development.

Indeed, the idea of women as a meek, submissive and largely helpless appendage, *abala,* is as distorted as that of over-aggressive and scarcely feminine prototype. What is needed is a delicate balance, a creative fusion between two extreme positions. Here is a Vedic insight that views woman in terms of *ardhangini,* equal co-sharer with man in the triumphs and tribulations of life, and wife as the queen of the home:

> May this woman, Angi, find a husband
> then, verily, Kind Soma will make her happy,
> May she, bearing sons, be the queen of the home,

> and fortunate, holds sway, united with her husband.

In the present intellecutal landscape, the need for integrated women development has often been articulated by policy makers and planners but there is a total neglect of comparative and historical researches. In the absence of empirical data there has often been a tendency to deprecate the importance of women development and her productive role in the national and international reconstruction. Whatever scanty material is available restricts itself to the status of women in the contemporary society and (i) hardly examines her productive and creative role in the evolution of life-systems, and (ii) as a catalyst in moulding, and determining the systems and institutions.

The Creative Development

The creative development of women, both her inner and outer resources, represents one of the most exciting challenges as we move on to the 21st century. Indeed, the Indian intelligentsia should assume the responsibility of proving a coherent philosophy and model of women development for the entire world. There may be the emergence of new definition, the new philosophy and the new perception of the women developmental process; some unachieved unified field lies before the dreamer, the enquirer and the lover of mankind.

Women have miles to go before they could make any claim of achieving the political, social, economic and cultural equality. The UN Decade for Women has identified a number of forward looking policies and programmes for providing them an access to material resources and the power to participate in the decision-making process. The issue which we have to address ourselves does not exclusively form part of the integrated development of women but equally important is the question of how far they could become agents of new paradigms of development and bring about a social transformation, a turning point in the history of human civilization.

It is a new agenda, an adventure in ideas; calling for a paradigm shift in the philosophy, policies and programmes; from the dominance of male superiority and polarities to the concept of complementarity; from the fragmented and narrow perception of reality to a holistic and ecological paradigm of women development. What is called for is a system view of life and systematic approach to the women developmental process.

Looking retrospectively, one wonders why did women who held a pre-eminent position and excelled in various activities in Vedic times had forfeited their status, self confidence and freedom during the medieval and British periods. To answer this question would call for the rewriting of the history of civilizations from a refreshingly new perspective. But the issue that needs to be highlighted is that the women's position in the social hierarchy had gone through a process of a series of fluctuations. While studying the rise and fall of civilizations from several millenia, some of the perceptive thinkers and social scientists have attributed the male dominance to the philosophy of pragmatism and the rise of sensate culture — built brick by brick on the pattern of basic building blocks, on Newtonian mechanics, Cartesian and Marxian orthodoxies.

This stream of thought was updated, enriched and replicated by clinical and behavioural psychologists. The patriarchical dominance is inextricably linked up with the indiscriminate exploitation of natural resources and the Mother Earth, a metaphor associated with the feminine qualities. The sixties, seventies and first half of eighties have witnessed a series of social movements like Feminine, Small is Beautiful, Human Potentials and Anti-Nuclear, Environmental Protection and Ecology which apparently are moving in the same direction, focussing on different dimensions of the new vision of reality. These movements are still operating separately and have not yet recognised the common denominators to interrelate with each others. Once these movements start flowing together, they will produce a new force for social transformation.

A Process of Renewal

Representing the greatest single force for a political renewal in a civilization thoroughly out of balance, women have the integrative potential for building bridges between various communities, races, religions and sexes. Mankind today is poised at crossroads, one road leading to imaginable chaos and destruction, the other to undreamt of possibilities for growth and human welfare. From deep within the human psyche, there has developed a terrible power that threatens the extinction of all life-supporting systems within a foreseeable period of time.

Women and Human Unity

If the prophets of gloom and doom have proved to be otherwise, women must do introspection as to how they could emancipate the earth and eco-systems from the instrument of destruction. Perhaps, they can generate a psychological climate of oneness for the sheer survival and renewal of this life-breeding planet. They could put across the message of *Vasudheiva Kutumbakam* sharply and consistently in a world torn by explosion of hatred and conflict, tension and violence. The values that have been associated with feminine are compassion, love and understanding which are urgently needed to counter-balance the pall of violence, confrontationist psychology and the armament race. The responsibility of women in our times is quite staggering, so does their obligation to humanity.

Holistic Education of the Gifted and the Talented

U.S.Chaudhari*

A democratic society can pursue an egalitarian policy if it provides the fullest possible education for each without regard to background and status – social, material or mental. Under such a policy, all individuals will receive their democratic due including those who are talented, according to their needs and abilities. The conflict between excellence and quality is false and fallacious. We must strive to be equal and excellent too. The most serious task facing us today is to place both goals in the same direction so that they can be pursued with equal vigour at the same time. (*Gardner,* 1961)

"A gifted child" says Torrance (1969) "is potentially an awesome powerful force. He can advance civilization or destroy it." Giftedness or talent, though valuable, is a scarce human capital. Progress and prosperity of a nation depends, to a large extent, on the unfoldment and nurturance of this unique potential of the children.

Recent breakthroughs in research concerning the human brain and personality (*Springer et al.* 1981, *Ostrander et al.* 1979) have resulted in the emergence of a new and challenging concept of giftedness. It indicates going away from concepts of a single type of giftedness, fixed intelligence and belief in predetermined development. Now the concept of giftedness emphasises 'potentiality' rather than norms and single measure of giftedness (*Torrance,* 1969).

The intellectually gifted child finds the typical in-grade learning experiences inappropriate by virtue of his ability to learn at a faster pace to master high levels of content at an earlier age, and to handle abstract concepts with greater insight. The gifted children, as a group, are characteristically different from other children. They also differ from each other in their own group of gifted ones. Because their thought processes are qualitatively different from others, they require differentiated educational programmes and services beyond those normally provided by the regular school programmes in order to realize their contribution to self and society (*Fox,* 1975, *Marland,* 1972). Torrance (1969) pleads for "a more humane kind of education for gifted children – one in which children will have a better chance to achieve their potentialities." This implies that, first of all, the teachers should recognise the talents of the gifted learners and should help them value their potentialities.

We must face the fact that perhaps as many as a fifth of our nation's children are bored and frustrated in classrooms where their gifts and talents are ignored. The gifted child from the disadvantaged background may be the most overlooked. Because of their traditional concern for the 'average' and the 'deficient', the teachers pay little attention to the bright or superior child, and thus appear to hold back talented children in those areas in which they really excel. Lack of opportunity and challenge in the classroom slow down the pace of the talented children, make them underachievers, and finally turns them into truants.

The process of becoming teacher of gifted children is much like the process of creative thinking itself. Since creative people have their greatest strength in their creative abilities, they are motivated to learn in creative ways, to solve problems in creative ways and to live in creative ways. Therefore, whatever policies and practices are developed should facilitate such creative ways of behaving (*Torrance,* 1969). This demand can be met by such a teacher who can be described best by the term 'Mentor' – a mixture of parent and peer (*Noller,* 1982).

Holistic Approach (Body-Brain Concert)

Horse-and-buggy learning is not practical for the gifted pupils who possess a jet-speed zest for breaking new grounds. They are capable of 'superlearning' (*Ostrander et al., 1979*). Superlearning deals with the 'potential quotient', not 'intelligence quotient'. It is holistic learning in which the whole person is invoked. This is a less stressful and more efficient way of getting to one's potential. Superlearning is an outcome of autogenic training. Autogenics and its many current adaptations are concerned with harmonising all the forces of mind and body so the body can perform at its best. It also can help heal body and mind and give the kind of all-round bounding health few enjoy or even

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expect any more. These relaxation and visualisation exercises (or suggestspedia) by removing the fear of learning norms and limitation and, by counteracting brainwashing influences, enable individuals to make positive affirmation.

This method guarantees painless birth of knowledge and thinking by relieving the learners of the disease named by Lozanov as 'didactogeny'. The superlearning exercises release the learners from tension, worry and boredom and make them feel refreshed, engaged and centered. In other words, they attain what Maharshi Mahesh Yogi prefers to call, a 'super cooled' or 'ground' state where the nervous system becomes highly coherent and the brain works effortlessly (*Aron and Aron, 1982*). Genuine relaxation is a state of expanded consciousness. The music- induced relaxation leaves the brain alert and able to concentrate. In this state relaxation and mental work can go together. This is the way to let us have our cake and eat it too.

Brain-Compatible Programmes

Lozanov's suggestological methods of superlearning are also supported by the recent brain-researches. Now, the human brain is seen as a circuitry of interconnecting elements called neurons (nerve cells). Thinking is the outcome of the action of ten to one hundred billion neurons constantly firing and exchanging information among themselves (*Hart,* 1975; *Sagan*, 1977; *Teyler*, 1978). Each neuron consists of three major parts: dendrites, cell body and axons. It is also hypothesized that the ultimate creative capacity of the brain is infinite. Research on highly intelligent people has shown that such individuals have the ability to process enormous amounts of information in short periods of time (*Clark*, 1979). It is possible that highly intelligent persons have more expansive dendritic branching, thereby increasing their capacity for receiving and processing information, than do persons of average intelligence. If this is true, then it may be possible to improve intellectual functioning by finding out ways to improve dendrite branching.

The axons of each neuron are coated with a fatty substance called myelin. Heavily myelinated axons conduct information more rapidly from one cell to another than do less myelinated axons (*Thompson, Bager* and *Bery*, 1980), thus enabling greater amount of information to be processed in shorter period of time. Research on rats has shown that the production of myelin is heavily influenced by the presence or absence of two factors: emotional closeness and enriched experiential learning environments. Thus, abundance of physical affection and the presence of complex problem solving learning tasks stimulate the production of myelin and significantly improve dendritic branching (*Rosenzweig*, 1966; *Sagan*, 1977).

If a comparison with human cerebral functioning is attempted, we can say that highly intelligent people have an abundance of healthy myelinated axons to assure the smooth and rapid transmission of vast amount of information. If this is accepted, then giftedness or talent might possibly be nurtured through physical affection and enriched learning environments (*Clark*, 1979). What merits careful consideration is how the brain selects its programme. Researches tell us that the brain operate on an emotional bias system. Only information that is perceived by the learner as helpful, interesting and rewarding is eventually processed by the brain (*Galyean*, 1981). In short, 'we learn what we want to learn. Cognitive functioning is determined by the emotional state of the learner. Research on gifted individuals also reveal that these people generally seem more motivated, attentive and retentive than do average learners (*Clark*, 1979). Therefore, it is possible to enhance intelligence and intellectual output by increasing the quantity and quality of affective motivators such as desire, social approval, excitement and altruism (*Wittrock*, 1978).

Information enters the brain at the tip of the spine and must pass through the lower central region of the brain, known as the limbic region. Within this region are situated five glands (thalamus, hypothalamus, amygdala, hippocampus and pituitary) that serve as a collective gateway to the neo-cortical region. These glands operate on the basis of emotional preference (*MacLean*, 1978; *Sagan*, 1977). If the learner has a negative attitude, or is bored, coerced, threatened or too much fatigued by outside stimuli (such as subject matter), the thalamus secrets a series of harmones called 'endorphins' which anesthetise the other glands thereby blocking the passage of new information into the neocortex. Intellectual shut down in the face of high anxiety is an example of thalamic shut down. On the contrary, when the images associated with learning are positive, pleasant, novel and rewarding other harmones are secreted that hasten the entry of new information into the cortical region and accelerate learning (*McGuinness* and *Pribram*, 1980).

Humanist psychologists are also of the view that highly successful, intelligent and mentally healthy people have the ability to maintain consistent positive images about themselves and their environment (*Coop-*

ersmith, 1967; *Maslow*, 1968; *Rogers*, 1969). It is thereore, desirable to present gifted children with such acivities which nourish and enhance their self-esteem. A najor thrust of education should be to discover ways of providing students with means for discovering their own interests sources of learning motivation – and to plan learning experiences (curriculum) management around the personal intention of each learner. In many ways the curriculum has already been determined within the limbic system (*MacLean*, 1978). The function of education or teaching should be to tap into this blueprint and to help it unfold.

The brain performs dissipative action (breaking and making of patterns) through the creation of electronic waves. When we are in the ordinary waking state of conscious analytical thinking; short, rapid and rhythmic 'beta' waves are produced, allowing little or no room for perturbation of the already existing patterns. However, when we are deeply relaxed, engaged in reverie or musing, fantasy or creative attempts, intuitive thinking or symbolic expression, our brain emits long, rapid waves called 'alpha waves'. These waves shake up already existing patterns allowing new ones to emerge. The 'alpha state' is the state of creativity, insight and illumination. Therefore, in the educational programmes for the gifted or talented, students should be provided with activities for inducing alpha consciousness. This can be done by allowing mood music, soft lighting and mental colours such as yellow, blue and violet to adorn the room and to encourage deep breathing, centering, inner focussing and imaging (*Bogen*, 1969). Such affective activities seem to open up the right cortical area or right hemisphere of the brain, which is the seat of creativity. Knowledge is thought to emerge within the right hemisphere, yet is encoded, understood and communicated within the left hemisphere. Insight and intuition are the seeds for new knowledge, but they come only after periods of intense analytical scrutiny of a problem. Astronomer-biologist *Car Sagan* (1977) emphasizes that the most significant creative activities of a culture are the result of collaborative work by the left and right hemispheres. The traditional education system has often been found to emphasize left hemispheric functioning to the diminution and even denial of right hemispheric functioning (*Bogen*, 1969; *Wittrock*, 1978). Hence the 'holistic approach', that is, working of body, left and the right brain in concert is the need of the hour so far as the programmes of education for the gifted children are concerned. The first imperative, therefore, is to convert the old brain-antagonistic system of schooling into a brain compatible one (*Hart*, 1981).

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Value-Oriented Education

Shri P. V. Narasimha Rao, Prime Minister of India, delivered the Convocation Address at the tenth convocation of Sri Sathya Sai Institute of Higher Learning, Prasanthinilayam, Andhra Pradesh. He said, "A misconceived and misunderstood notion of modernity and the compulsions of the scientific age have posed a great threat to our values. When modernisation gives better communication that bridges the gap between people, the traditional values of a small, closely-knit society which demands cooperation, loyalty and interdependence with relations and neighbours often get eroded. People tend to ignore these values. Constant efforts will have to be made to stop this erosion. The inculcation of the right blend of values, in today's context, is the most challenging and daunting task of our educators. We have to reinforce our traditional values while, at the same time, we learn to cope with the requirements of modern society. Our Institutes of Higher Learning must bring about a blend between traditional values and modern knowledge." Excerpts

This hallowed Institute, Sri Sathya Sai Institute of Higher Learning, is a pioneering and unique Seat of Learning. Spiritual and Ethical Values permeate this University. Bhagavan's emphasis on the five Universal Values of Sathya, Dharma, Shanthi, Prema and Ahimsa is truly secular in character; and these constitute the major bedrock of all the religions of the World. The atmosphere here is calm, solemn and serene and is surcharged with spiritual ethos. It is in such an environment that our ancient Rishis transmitted Knowledge to their disciples.

The importance of value-orientation has been repeatedly stressed by several commissions and committees on universities and higher education in India. The National Policy on Education-1986, to which my Government is committed – and I had the good fortune to be involved in fashioning it out to some extent, emphasises that, in our culturally plural Society, education should be used to foster universal and eternal values oriented towards the unity and integrity of our people. This form of value-oriented education should help to eliminate obscurantism, religious fanaticism, violence, superstition a fatalism. There has been a growing concern over the erosion of essential values. There is also a growing realisation that there is a need for the radical restructuring of the curricula of studies to enable education to become a forceful tool for the cultivation of social and moral values and for the promotion of a holistic personality which is the bedrock of all oriental philosophies. We do not look at men in bits and pieces; we do not look at life in bits and pieces and in hours and days. We take a holistic view and we believe that the whole is much more than the arithmetical sum-total of its parts. Our education policy visualises value education based on our heritage, national goals and universally accepted values. Any educational policy, however well thoughtout, is likely to remain a pious declaration of mere aspirations unless we show a firm determination to implement it. Indeed, a purely intellectual discussion of values in the classroom, as part of the syllabus, is not adequate for imparting value-orientation to our students. The practice of these values in day-to-day life by the teachers and students at all times would alone testify to the completion of education.

One area where we cannot have a gap between precept and practice is value-oriented education. Unless the teacher himself is a living embodiment of values, how can he carry conviction with the students? Sri Sathya Sai Baba has said: *'Education does not mean getting the know-how of the alphabets'.* About 25 years ago, He said in one of His speeches in Rajahmundry, which I recall: "*What does one gain by filling one's head with book-knowledge? Instead, one can read the book itself. It is no use merely acquiring such book-knowledge. It is not enough. Wisdom is not the same as bookish knowledge. It is something far superior, and one can acquire it by practice in daily life*". What is learnt has to be practised and shown in your daily life, thereby sanctifying your life. You must try to understand the inner purpose of life. A misconceived and misunderstood notion of modernity and the compulsions of the scientific age have posed a great threat to our values. When modernisation gives better communication that bridges the gap between people, the traditional values of a small, closely-knit society which demands cooperation, loyalty and interdependence with relations and neighbours often get eroded. People tend to ignore these values. Constant efforts will have to be made to stop this erosion. The inculcation of the right blend of values, in today's context, is the most challenging and daunting task of our educators. We have to reinforce our traditional values while, at the same time, we learn to cope with the requirements of modern society. Our Institutes of Higher Learning must bring about a blend between traditional values and modern knowledge. As Dr. Sarvapalli Radhakrishnan said: "*If you give up your traditional values and if the roots are cut away, trees cannot live*". You must preserve the traditional values which you have but assimilate them with the developments in modern science and technology. Preoccupation with modern technology cannot be allowed to sever our new generations. There are roots in Indian history and culture.

I am glad that this Institute is trying to achieve this blend between traditional values and modern scientific knowledge. The science departments are well equipped; in fact, they are better equipped than in many other universities that we come across. The Centre for Computer Science, established at the Prasanthi Nilayam Campus, is comparable with the best of such computer centres in other educational institutions in our country. Now this is a real blend between science and spirituality — the synthesis I was talking about, for which Indian thoughts stand, cannot be content with half-baked knowledge. Either we are full or nothing. There is nothing like 30% pass in Indian Philosophy and Indian Learning. The students have to be motivated to strive for perfection. In the physical, intellectual, emotional as well as spiritual spheres, universities are to play the role of centres for imparting knowledge. In the Indian tradition, knowledge is wisdom and not mere intellectual attainment or competence. Value-oriented education alone can realise the basic aim of higher education.

As Mahatma Gandhi said: "*Education which does not teach us to discriminate between good and evil and to assimilate one and eschew the other is a misnomer*". India's political and social life is passing through a phase which poses the danger of erosion of long-accepted values. We are able to see this even as we watch it and this is going on even as we regret it. Secularism, democracy, national unity, professional ethos and other cherished values are coming under increasing strain. A vigorous and pace-setting programme calls for implementation in all our universities/colleges. I realise that this is a task that is easier said than done. Today India has one of the largest systems of higher education in the world. Facilities for higher education have grown rapidly since Independence. The number of universities has increased from 25, at the time of Independence, to 177, and the number of colleges from 700 to nearly 7000. Student-enrolment, which was only 2 lakhs in 1947, is now more than 42 lakhs. This is the magnitude of the task before us. The task is to transform this huge massive structure of higher education from one where values are completely lost to one where values are completely cherished. The task is an absolutely stupendous one and, if there is a small glimmer of hope, it comes from an institution like this. We would like to take the glimmer from here. I want my colleague, Shri Arjun Singh, who heads the Ministry of Human Resource Development, to examine, to go deeper into this and see how this transformation can take place, because transform we must. There is no other way. This then is the magnitude of the task before us and there is no use getting daunted by the magnitude. We have to make a beginning somewhere; and that somewhere is here.

There are two areas that immediately come to my mind where reforms can be introduced within a rigid time frame which would have a tangible impact on the direction of value-oriented education. One is the area of curriculum reform. You all know we have been attempting this with some fruitful results; but much more needs to be done as part of the implementation of the National Policy on Education-1986. The University Grants Commission has issued guidelines for restructuring courses which provide for Foundation-Courses at the first-Degree level. These courses are designed to create an awareness of the cultural dimensions of our country, including our cultural and social history and other aspects essential to nurture a sense of national identity and national integration. The growth of spiritual and moral ideas must find a place in these courses. These elements should be designed to inculcate, in the students, values such as egalitarianism, secularism, equality of sexes, removal of social barriers and scientific temper. The synthesis of science and spirituality and the blending of material prosperity with universal human values should be duly emphasised in the content of education.

Another equally important area is examination reform. In the Indian way of thinking, there is no such thing as a 30% pass. We have to aim at perfection and there is no escape from that. The system, as it exists today, apart from being based on mediocrity, is itself contributing to the decline in moral values. This is the most unfortunate part of it. It is bedevilled by evil practices such as cheating in examinations, leakages of examination papers and the like. This is also happening in the UPSC examinations apart from universities. We witness laxity in evaluation, in collusion with a section of the teachers themselves, and even the threat of violence in examination-halls. These practices need to be checked and eliminated through far-reaching examination reform. Mere policing will not suffice. It is the more intelligent, more comprehensive and more perceptive method of examination that can do away with these malpractices and nothing short of that. Unless we do this, we cannot arrest the further deterioration of moral values and, concomitantly, the deterioration in quality and standard of our education system.

These are only two areas which I have cited at random but, to make the beginning somewhere and if these two areas are taken up for intensive work in reform, I am sure that other areas will also receive some beneficial fall-out from the reforms that we attempt in these areas.

We would now like to go into the actual implementation of the New Education Policy. When we were formulating Policy, we had the good fortune of the benefit of opinions, views and guidance from the Sri Sathya Sai Institute. Prof. V.K. Gokak and others were good enough to come and talk to me. We sent our people here and we had a good amount of consultation, but, somehow, I feel that all that needed to be incorporated in the Policy was not incorporated. We would like to supplement what we have done before by doing that supplementing now, because this Institution has already justified its existence. For the last ten years, it has been working, and what we knew about it in 1985 was far less than what we know about it today. So, we would like to supplement what we have done in 1985 by learning more the working of this Institution, from studying the performance of the alumni of this Institution and from the methods followed in this Institution hereafter.

Benedictory Address

by

Bhagavan Sri Sathya Sai Baba

Chancellor of the University

Our motherland Bharat has given birth to noble persons who have achieved international fame. This is the land of great heroes, who have defeated and driven away alien invaders and won freedom; it has demonstrated the highest and most renowned scholarship; and it has established its supremacy in music, literature, art, architecture, painting and other fine arts. After being born in such a great land, dear Students, it is your responsibility to protect and foster its great name. What more can I tell you than this truth, Oh good, noble and virtuous persons, who have assembled here?

Dear Students, Teachers and Patrons of Education! By virtue of its spiritual power Bharat has conferred, right from ancient days, peace and prosperity on all the countries in the World. The most profound aspiration expressed by Hindu tradition is 'Let all the World be happy': "Loka Samastha Sukhino Bhavanthu". This prayer of our countrymen stands out as the most profound yearning for the welfare of all people.

Bharatiya Culture is the very form and manifestation of that Eternal Truth which does not change with time; does not get corrupted by history; does not get destroyed by deluge; and does not grow with new creation. Ancient Vedas have declared, in unmistakable terms, one of the most important laws viz. *"Speak the Truth and follow the path of Righteousness"*. Bharatiya Culture is peerles and stupendously great. Sanathana Dharma is the soul and core of this great Indian Culture, the corner-stone and foundation for the phenomenal world, the world of life, the mental horizon and social life. Therefore, what the students have to protect today is Truth and Righteousness. Righteousness protects those who protect it. The beauty of the form of the Divine Man is reflected only in the mirror of education. Education gives shape and lends beauty to the entire Nature and Creation itself. Believing in the impermanent material world, Indians today are giving up such a sacred culture; and this is responsible for all the problems facing the country.

Need of Human Values

Students have to acquire human values along with their wordly education. It is necessary to foster human values along with the growth of science and technology. Students should attach more importance to the cultivation of virtues than the acquiring of mere cleverness and skills.

> *Today's education lays emphasis on the cultivation of cleverness and worldly wisdom, but does not help the growth and development of noble qualities and virtues. What is the use of such education, which does not help in the growth of virtues and noble qualities?*

In fact, such education is a sheer waste.

Virtue lends beauty to man.

True education is always accompanied by virtue. Such education makes man shine resplendently. It can be considered to be a source of secret wealth and the basis for getting name, fame and prosperity. It is the preceptor of all preceptors. It serves as a relative when the educated go to an alien land. It acts as the third eye for man. It is education and not wealth which was honoured by Kings. A man who does not have education may be considered to be no more than beast. This is what the Scriptures say of good education.

It is wrong to say that the goal of education is the acquisition of the knowledge of only science. Science is only a part of total education. It is not sufficient if a person becomes a great scientist. It is necessary for him to have humility, absence of ego and selflessness. These are the important attributes of good education. Education should foster the growth of one's personality and help to expand one's heart. True education must inculcate self-confidence in man which, in turn, can help in transforming him into a divine full man. Today's education is artificial. It has neither life nor skill in it.

> *Give up the wrong thinking that education is meant for earning degrees. Do not aspire to seek jobs for living and depend upon others for your livelihood. Seek only the welfare of Society and of the Nation. One has to acquire education which is based on the dignity of labour.*

Convocation

In the ancient days, the preceptors used to collect the students after they had completed their studies and were about to enter into a new phase of life viz. family and give them most beneficial advice, keeping in mind the best interest of their students. Such words of wisdom included statements such as: "*Dear child, No one would ever come to harm by speaking the Truth or following the path of Righteousness. Consider Truth and Righteousness as the very eyes of Bharatiyas. You should follow and practise these two virtues throughout your life. Fill your life with joy by following this sacred path. Inspire many others to follow this path by your own life and reap joy in life*".

But, unfortunately, the whirlwind of science and industrialisation has destroyed faith in these glorious virtues and brought about untold miseries and degradation in society. These changes have eroded totally the moral values in society. Religious and spiritual values have declined steadily. It has become a fashion on the part of students to be filled with ostentation, the habit of excessive talk, selfishness and self-interest. That is the reason why there is no place for moral values in today's society. What each one of you has to do is to introspect and find out the place given for human values in the scheme of things in each one's life. One would painfully conclude that, in spite of the great heights scaled in the field of scientific research and invention, human values have declined. What is the use of such research and invention, if human values in life are given the go-by?

Growth of Education

It is 44 years since we achieved the political independence of our country. In 1951, there were about 20 universities in our country. Today we have nearly 200 universities. There was a time when the student enrolment in universities was only a few thousands but, today, the enrolment has increased to several lakhs. The number of universities is growing but the quality of education is declining. The number of students is growing but the standards of instruction are steadily falling. Our leaders seem to be happy with the growing number of universities and students. What is the use of education which does not help the society and promote the welfare of the country?

Today's education does not foster the unity and the integrity of the country. We have achieved independence but not the unity of the nation. Hatred and jealousy are steadily growing day by day. What is the basic reason for such a state of affairs? The real human nature is suppressed in man by a wrong attitude and absence of love for God.

Can every person who knows how to read and write be called an educated person? Can obtaining degrees from universities be taken as true education? Can education, bereft of virtues and wisdom, be called education at all? Certainly not. Today the ancient Aryan form of education is given up; and the wrong type of education has taken its place. Therefore, truth and righteousness have yielded place to untruth and unrighteousness. The practice of compassion has been given up, giving room for cruelty. What is the reason for all this? The reason is the giving up of three important things: (1) love for God; (2) fear of sin; and (3) morality in society. A person can be called a human being based only upon his conduct and behaviour.

Dear Students! Every atom of land in Bharat is sacred. You are extremely indebted to Bharat. You can repay your debt by offering your service for promoting the welfare of your Motherland. Earn Her grace. Enjoy the delight and bliss in your life and share it with ten others. Students should develop an attitude of broad-mindedness. It is essential to have devotion and faith. Only that student can be called a real student who uses his life to manifest the hidden divinity in him and demonstrate to the world that human life is essentially divine life.

True education fosters the cultivation of noble virtues, adherence to truth, dedication, devotion, discipline and duty. A true student should cultivate these qualities.

Students should give a place of prime importance to discipline in their lives. Today's students are tomorrow's leaders. Today, students are going on the wrong path. You have to dedicate your life for the prosperity and well-being of your country. You should not look upon personal happiness and comforts of life as the goals of life. They are petty aspirations. Such personal comforts must be treated as something unimportant. One finds even animals and beasts are enjoying such happiness. One does not find happiness in sense-objects. In fact, real happiness comes through the control of the senses, awareness of Atma and the attainment of Atmic bliss. Students should cultivate sense-control, in the first instance.

Goddess Saraswathi showers Her grace on students who exercise sense-control. Educational institutions ought to be the abode of the Goddess of Learning, Saraswathi. Today, instead, they have become the abode of the Goddess of Wealth, Lakshmi. One has to pay money for admission, for marks and even for a pass in an examination. There is an unholy alliance with money in every aspect of education. This is the reason why the Goddess of Learning has gone away to the forest and Her place is now occupied by the Goddess of Wealth.

It is most degrading to see the sale of food, the sale of education and the sale of medicine in our sacred land. The sacredness and divine nature of our land started declining on that fateful day when the selling of food, education and medicine started in our country. This great misfortune has befallen Bharat.

Our teachers should take a vow to keep their service at the disposal of the students at any time during the day. They should not restrict their time only to the working hours. They should help the students at any time they need help. Education is meant for life and not for eking out a livelihood. Educated people should recognise this truth.

The students of today are not aspiring for education for its own sake. They seek learning in order to make money out of such education. Dear Students! money comes and goes; but morality comes and grows. Realising this truth, you have to foster and develop morality and integrity in your lives. You have to stand firm by human values. For being called Man, you should lead a life worthy of Man. Then only you can transform yourself into a Full Man (Divine Man). The power to transform Man into Divine Man must manifest itself and find expression in education. This is the truth flowing as the undercurrent of our Culture from ancient days.

But unfortunately, today, students are not attaching importance to the transcendental values. Instead, they are filled with the worldly values alone. Dear Students! What accompanies us inescapably is the tendency that we cultivate and not the objects of the world. We have to shape our lives into ideal lives. Our destiny depends upon our good behaviour. I wish that students of this university, going into the open world, usher in peace and prosperity in the entire world by making their lives good models for all others to follow.

There are four significant sayings:

Sow an action, reap a tendency;

Sow a tendency, reap a habit;

Sow a habit, reap a character; and

Sow a character, reap a destiny

You are the makers of your own destiny. You can do and undo.

A Centre for Integral Education

Extracts from the Introductory Address

by

S. Sampath

Vice-Chancellor

The Institute's central objective is to impart a form and style of learning that is described as 'Integral Education', encompassing, as it does, the pursuit of Knowledge, inculcation of the traits of Duty and Devotion and the virtues of simple living, together with a cultivation of a sense of Unity with all fellowbeings irrespective of religious affiliation. The student starts with a set of values which are secular in character such as knowledge; skills; discipline; equipoise; and gentle behaviour, which are the distinctive hall-marks of an educated person. The Institute is fully residential in character and hostel-life in all the three campuses is so organized as to foster an attitude of austere living, conduct rooted in discipline, personal cleanliness and decorous behaviour, self-help and an abiding concern for the welfare of fellow-beings.

In the framework of the ethos provided by the Institute, the students move, in a graded and subtle manner, toward an appreciation of the five attributes: *Sathya* (the truth of the being); *Dharma* (righteous conduct); *Santhi* (peace and serenity of the mind); *Prema* (love and compassion); and *Ahimsa* (non-violence permeated by a feeling of oneness with every object of creation). These are Absolute Values which embody the norms of human behaviour and the ideals to be pursued by Seekers of the Spirit, as they help to refine the main faculties — the intellect, the will and the heart.

This is the tenth year of the Institute's Service in the domain of Higher Education. It has been successfully conducting an Integrated Curriculum of Studies, in which students enrolled in the three-year B.A./B.Sc./B.Com Degree Courses continue their studies for a further period of two years and earn the M.A./M.Sc./M.Com Degrees. The Science Departments are well equipped to create a climate in which work of a high standard by postgraduate students and research scholars is carried out. The Institute offers a M.B.A. Programme with a unique curriculum that places wholesome emphasis on the importance of human values in the pursuit of Management Goals and Objectives. The Institute has established a Centre for the promotion of Computer Science activities and plans to enlarge its scope in response to felt needs.

A Course on 'Awareness' and a package of 'Integral Items' are distinctive features of our System of training. The Awareness Course, taught over the first four Semesters of the Undergraduate Programme, focusses the attention of the students on the following: the life, mission and teachings of Baba ; the thread of unity that binds all the faiths; glimpses of the life and work of great Seers and Thinkers; and contemporary World problems and the ingredients of possible solutions. The repertoire of Integral Items consists of Yoga practice; games and sports; prayer and meditation; social service; and self-reliance programmes. The students are continually evaluated for their performance in these items.

As a result of the Institute's Open Admission Policy, it has students from all parts of India and also from abroad. The Institute follows the Semester System in which Continuous Internal Evaluation plays a key-role. The Examination Reforms Unit provides full support to the conduct of all the examinations.

From the Sri Sathya Sai Central Trust, the Chancellor provides the required funds for creating the infrastructural facilities and for meeting the recurring expenditure of the university. As no funds are received from Government sources — except for special grants made available by the U.G.C. for the acquisition of certain items of scientific equipment and Books and Journals in the Library, the Institute is in a position to practise autonomy in the true sense of the term. The Chancellor's compassion for the student community is such that the university does not charge tuition or other institutional fees such as Library Fee, Examination Fee, Sports and Games Fee, and Establishment charges at the Hall of Residence. The students receive health-care and, if need arises, medical treatment, also free of cost. A band of devoted doctors and para-medical staff are ever ready to help the student community. Free education and free medical care are not utopian dreams but ground-realities in the System of which Bhagavan Baba is the Creator and Co-ordinator. The students pay, at a modest rate, all their food expenses. Several of them receive financial assistance by way of scholarships-stipends. The Teachers of the University draw salaries on the pattern set by the U.G.C. and are beneficiaries of a Career Advancement Scheme being implemented by the University.

During the year, the Curricula and Syllabi of all the Courses were reviewed and updated, in consultation with Subject-experts from leading educational institutions in the country. The B.Sc. Programmes, having attained a high standard, are being designated as Honours Courses in the respective disciplines. A Bachelor's Degree Programme, offering a Subjects-combination of Mathematics, Statistics and Physics has been started. The ground-work has been completed for the institution of Post-M.Sc. Courses equivalent to the Master of Engineering/Technology programmes offered by prestigious institutions in the country, and, in particular, the Master's Degree Course in Computer Science with two areas of specialization, namely 'Software Engineering' and 'Information Technology'. Good-quality research work continued to be done in the various Departments. Over the years, 32 research-scholars have been awarded the Doctorate Degree in Science and Arts subjects. This year, 4 candidates have qualified for the award of the Ph.D. Degree from the Departments of English, Mathematics and Chemistry. Post-doctoral programmes, in thrust-areas of national relevance or addressed to problems of local interest, are in progress in the Science Departments.

This year's Annual Sports and Cultural Festival, presided over by the Revered Chancellor, was held in the Prasanthi Nilayam Campus during January 11-14. The current academic year commenced auspiciously, in the beautiful setting of the Brindavan Campus, with a Fortnight-long Summer Course on the theme: 'Indian Culture and Spirituality'. The Revered Chancellor delivered a Divine Discourse on each day of the Programme. A number of guest-speakers and a select band of Teachers and Students addressed the participants—students and teachers from the three campuses. In July 1991, the Institute organized a Four-day Programme on 'Management Development' for the benefit of the students enrolled in the M.B.A. and M.Com. courses. It was inaugurated by the Chancellor. Fifteen Experts from a diverse range of industrial enterprises and other related establishments came to the Institute to serve as resource-persons in the conduct of this interactive exercise. The Museum of Eternal Heritage in the Prasanthi Nilayam Campus — a veritable treasure-house of World-Culture, emphasizing the essential unity of all Faiths, was declared open by Bhagavan Baba, on 17th November, 1990, on the eve of His 65th Birthday. This day, 22nd November 1991, in an act of unparalleled compassion, He has gifted to the Nation and, indeed, to Humanity, a Super-Speciality Hospital, wherein the treatment of some human ailments, using the most sophisticated medical techniques, will be provided to the poor and the needy, free of cost.

The Sri Sathya Sai System of Education has a goal that transcends the concept of building up a fabric of 'Knowledge' and 'Skills'. Nor is it content with the coming together of the Platonic Ideal of 'Knowledge for its own sake' with the Benedictine urge to derive 'Joy from doing Useful Work'. Its grand aim is to produce a combination of 'action in the material world' with 'deep yearning for spiritual enquiry', by creating a base to facilitate the transformation of 'Secular Values' to 'Absolute Values'. The learner would then be enabled to play, when the time comes, a meaningful role in Society as a person in whom there is a Symbiosis of Worldly Concerns and Spiritual Ideals.

KUMAON ENGINEERING COLLEGE
DWARAHAT-263653
Advt. No. P-3/92

Applications are invited from Indian citizens for the following teaching post in the college having picturesque site and campus, established by U.P. Govt. at Dwarahat, a township 30 Km. from Ranikhet (117 Km. from Haldwani) and well connected by road with Delhi, Moradabad, Bareilly, Nainital, Haldwani etc.

Assistant Professor, Computer Science & Engineering (1 post) (Rs. 3700-125-4950-150-5700)

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Higher start may be considered in deserving cases.

Applications with complete bio-data accompanied by a postal order/bank draft of Rs. 15/- (Rs. 7.50/- for SC/ST) in favour of the Principal, Kumaon Engineering College, Dwarahat, payable at Post Office/SBI, Dwarahat, should reach the office of the undersigned latest by **8th Feb. 1992.**

The post carries retirement benefits as sanctioned by U.P. Govt.

PRINCIPAL

Orientation Programme for Teachers

The Academic Staff College of Himachal Pradesh University recently organised the ninth four-week Orientation Programme for teachers. Inaugurating the programme Prof. K.C. Malhotra, Vice-Chancellor, said that the teaching was a noble profession and its nobility was determined by the teachers who held lofty ideals and high morals. Unfortunately the temples of higher learning had become teaching shops having no educational culture, he said. Prof. Malhotra emphasised that the training of teachers was essential for making them more responsive to the needs of the society particularly at this juncture when the clouds of crisis both in economic and social sphere are thick and violent. The teachers have to seek solutions through research and inculcation of certain national values among the students, he added.

The main thrust of the programme was on improving the general awareness, teaching skills, subject competence and personality of the teachers. A number of techniques such as breaking the ice,warming-up, brain storming, brains churning, teaching game, role playing, self encounter, filming teaching by participants, quality circles, workshop, debate, chairing, assignments, fish-bowl etc. were utilised for the dissemination of selected contents and sensitising the participants with the real teaching situation. The participants had also an encounter with the students of different types through a tape-recorded survey. The teacher participants were provided maximum opportunity for interacting, reflecting and functioning in a team. Mutual, cooperative and interactive learning dominated the methodology of orientation.

Evaluation and monitoring of the training interventions was a continuous process which included day to day participation, punctuality, behaviour, pre-orientation awareness test, post-orientation evaluation, brains trust, think tank, debate, role playing and self-evaluation.

The training team comprising Prof. A.S. Sethi, Chairman, Deptt. of Psychology and Dr. Yoginder Verma, Director, Academic Staff College collected a set of articles covering different components of the programme and made these available to the participants in the form of a book. The teaching by participants was filmised and then shown to the participants. This followed expert comments and guidance for improving their teaching skills. The participants were also given an exposure to computer applications and subject upgradation.

In his Valedictory Address Prof. K.C. Malhotra said that this exposure must have helped the participants to wash away the rust stopping their growth and sharpen their sensibility and skills in the performance of their duties. Prof. Malhotra opined that the teacher had to be a fertile land for the seed of a high character where the tree of humanity and love flourished. This was essential as to restore the lost faith of students and society in the teacher, he said. In his concluding remarks Prof. Malhotra inspired the teachers by saying that they were the real harbingers of change whose vibrations mattered a lot.

Holkar Science College Centenary

Inaugurating the centenary celebrations of Holkar Science College, Indore, Vice-President, Dr. Shankar Dayal Sharma, affirmed that the Indian scientists were doing a good job everywhere and were second to none in the whole world. He, however, expressed grave concern over the erosion of moral values in the country and said that the West today was talking about the vanishing moral values in India. "Could there be an abuse worse than this?", he asked.

He urged the youth to emulate the precepts and ideals established by great leaders like Dr. Rajendra Prasad, Pandit Jawaharlal Nehru and Pandit Madan Mohan Malviya, so that the nation could be led to that position of honour where all the countrymen would be able to hold their heads high in pride and self-respect.

Dr. Sharma laid particular stress on science education and morality. He regretted that material development in the country was not being matched by moral progress. In his opinion economic and industrial advancement was meaningless without moral uprightness.

Dr. Sharma said India's contribution in the progress of science was the greatest in the world. We have given numerals and arithmetic to the world contrary to the fallacy spread by the West that Indian psyche was basically a philosophical one given to meditation and contemplation only. He asserted that in point of fact our country never lagged behind in the field of science because we had a logical mind. Even in the field of computer software, India was far ahead, according to a former Prime Minister of France.

Dr. Sharma exhorted the youth to 'strive hard to take the nation ahead without severing links with our roots'. The need was to have an open mind about the progressive aspects of the West and to assimilate whatever is good and truthful in the world. He highlighted the need for giving priority to research and said that colleges and universities could make significant contribution in research work.

He appreciated the announcement made on the ocession by the Old Holkarians Association to provide a sum of Rs. 12.5 lakh for the construction of an auditorium for the College and the announcement of the State Education Minister, Mr Vikram Verma, for also providing matching funds for it.

The Vice-President also released a compendium on scientific papers of the College and a book by Dr. V.V. Bhagwat called "Mahamanav Shri Ramkrishna".

Speaking on the occasion, the State Education Minister, who presided, announced that in view of the decision of the Old Holkarians Association to provide money for the-construction of College auditorium, he would also ensure that an equal amount was provided by the Government. He, however, urged the present students of the College to also contribute for that purpose.

He informed that the UGC team, which had visited Madhya Pradesh recently, had sanctioned a sum of Rs. 16 crore for 254 Colleges in the State for furtherance of various developmental activities.

He recalled the contribution of Dr. Sharma when the latter was the Education Minister in the State. He said that the State Government was aware of the changing needs and challenges in the education field and that it was striving hard for an all-round improvement.

Praising the contribution of Holkar College, the Minister said that this institution had sent talented personalities in diverse sections of society and its history was a track record of memorable deeds and events.

Philosophical Congress Meets at Tiruchi

Inaugurating the four-day all India session of the 66th Indian Philosophical Congress at the National College Auditorium in Tiruchi recently Dr. S. Muthukumaran, Vice-Chancellor, Bharathidasan University, regretted that "the legitimacy of Tamils' contribution has not been given its pride of place in the history of Indian philosophy". The Tamil-speaking philosophers and scholars themselves had not done their best in popularising their contributions.

Dr. Muthukumaran emphasised that the revival of Hindu philosophy had invariably originated in the south and spread towards the north.

After independence, there had been steady attempts to erase from the minds of youth the basic principles of religion, especially that of the majority. The reasons for this, he said, were the provisions of Articles 28 and 30 of the Constitution which stipulated that no religious instruction should be provided in any educational institution wholly maintained out of State funds. In practice, all religious instructions to students were confined to minority institutions. The situation could be remedied only if people belonging to the majority community were given the right to learn the texts of their religion from schools and colleges.

Prof G.C. Nayak, General President of the 66th session of the Indian Philosophical Congress and the Vice-Chancellor of Shri Jagannath Sanskrit Vishva Vidyalaya who presided, dwelt on the scope and concept of the scientific pursuit and the quintessence of philosophical enterprise. Drawing a distinction between scientists and philosophers, he said, "the scientific researcher and the philosopher may or may not be callous to what is happening around them while they are pursuing their respective disciplines, but the contribution of the scientist would be acknowledged simply because the products of his research are mostly utilised for the benefit of the people."

Mr. K. Santhanam, Secretary, National College Governing Council, releasing the "abstract papers" of the conference, said that the essence of all philsophical thought and pursuits ultimately underscored universal brotherhood.

Over 250 delegates presented papers and participated in the deliberations of the session.

Manipur Varsity Convocation

"Liberal democracy requires men and women who would pursue power for its own sake and seek to justify this pursuit in cogent languages of national interest" , said Prof. Upendra Baxi, Vice-Chancellor, Delhi University, while delivering the convocation address at the Manipur University. He said that without a will to power and rhetoric of legitimation, no successful practice of politics was ever possible.

Prof. Baxi said democratic politics was sacrificial and doing of politics required men and women to shun other career paths. "Name calling, maligning, gossiping and condemning politicians as a class is not civic participation, but its precise opposite".

In addition to being progenitors of well-bred, well-manicured critiques of power, Indian campuses should themselves be producers of alternative social consciousness and of visions of justice, Prof. Baxi felt.

He suggested that education conceived as constitutional politics should be directed to escalate transformative potential of future generations. This was a difficult task and in the words of Albert Einstein, "Politics is harder than physics".

Emphasising that universities are sites for expansion of consciousness, access to milliennial traditions of thought and development of national outlook, Prof. Baxi said universities sought to transform the nature and direction of politics.

Are practices of academic power within the Indian campuses informed by values and virtues whose lack we constantly bemoan in others? Or have we too readily succumbed to temptations which we would like others in public domain to valiantly resist? These uncomfortable questions should be on our agenda, he said.

Calling upon young men and women to perform tasks of justice through quiet acts of struggle in one's own academic niche, Prof. Baxi said such a niche was secured by practices of power oriented to the Indian Constitution. He exhorted the students in universities to contribute their might to the speedy attainment of a just social order envisioned by the Constitution.

New Campus for Engineering College

Shri R. Venkataraman, President of India, stressed the need for instilling quality consciousness in the minds of workers, supervisors, and experts at the initial stages.

Inaugrating the new campus of the Sri Venkateswara College of Engineering at Pennalur, the President said that in a free market economy, the only aids to the success of a product were quality and price, and both were complementary. "This is more so in international markets. Any amount of subsidies for export and other crutches offered will give only a short, onetime advantage and no more," he said.

Shri Venkataraman paid tributes to the sagacity of Nehru who pleaded for the vigorous application of science and technology for solving the problems of poverty and development. As a result of his policies, the out-turn of scientifc and technical personnel in the country had gone up from 18,000 in 1950 to 1.58 lakh in 1970 and 2.48 lakh in 1985. Now the country had a technical education system of over 400 polytechnics with 70,000 students, and 200 engineering colleges with 36,000 students and was marching forward in several fields including space science, micro-electronics and micro-computers. Engineering institutions must develop quality consciousness in the minds of students and he was glad that the college had a good academic record, the President said.

Mr. Bhishma Narain Singh, Governor of Tamil Nadu, who presided, referred to the great strides in engineering education since independence. Though many graduates from reputed institutions migrated overseas, he felt that it indicated the intelligence and ability of the people here and also the comparability of technical institutions here with the best in the world. However, greater interaction between industry and institutions will be needed.

Welcoming the gathering, Mr. A.C. Muthiah, Chairman, Sri, Venkateswara Educational and Health Trust, said that the college had plans to introduce courses in chemical and environmental engineering at the degree level, and computer applications at the PG level.

Training Course on Examinations

"Whatever may be the type of university – affiliating or unitary, conventional or deemed, Central or State – and whatever may be the system they adopt for evaluation of the students, the problems relating to the conduct of examinations are common to all the universities in the country," said Dr. K. Jayashankar, Vice-Chancellor of the Kakatiya University. Dr. Jayashankar was the chief guest at the valedictory function of the ten-day training course on the 'Management of University Examinations' organised by the Training Centre for Non-Teaching Staff of Universities in India at the Kakatiya University recently.

There is a need to evolve, as far as possible, a perfect system avoiding the two extremes of rigidity and flexibility in the rules, regulations and procedures concerning all the branches of the university in general and of the examination branch in particular, Dr. Jayashankar said. The participants with their present training should be able to contribute a lot in this direction with a view to avoiding redundancy in procedures, wastage of manpower, stationery, precious time etc. – all causing lot of inconvenience to the student community, he added.

19 members of the non-teaching staff representing 10 universities all over the country participated in the training programme.

English Version of Granth Sahib Dedicated to Mankind

His Holiness, the Dalai Lama, dedicated the English translation of Guru Granth Sahib to mankind at a function recently organised by the Punjabi University.

Performing the dedication ceremony, the Lama signed all four volumes of the English rendering of the Granth Sahib, which will be preserved in the university museum for posterity. Mr. Surendra Nath, Governor of Punjab, Dr. H.K. Manmohan Singh, Vice-Chancellor of the University, Mr. T.S. Broca and Mr J.K. Puri, Advisers to the Governor, Mr Y.S. Ratra, Secretary, Education Punjab, were witness to the ceremony, performed in front of an audience of distinguished saints and scholars.

The monumental task of translating the Granth Sahib was performed by the late Mr Gurbachan Singh Talib, an outstanding Sikh scholar. Punjabi University had sponsored the project.

Speaking on the occasion, the Dalai Lama said spiritualism was a source of achieving mental solace, happiness, compassion and affection while materialism was a cause of the spreading unrest, hatred and other vices among human beings. He said the essence of all religions was the same but it was unfortunate that occasionally various religions played a part in creating strife and conflict among human beings.

He said the English translation of the Granth Sahib would give a chance to the followers of other faiths also to closely understand Sikh religion and its philosophy. Those who could not read Gurmukhi but wanted to study the granth would benefit by the translation. It was very difficult, the Lama said, to translate a holy scripture into another language as the translator had to understand the inherent philosophy of the holy scripture concerned before proceeding with the work.

Mr. Surendra Nath said Mr. Talib's translation of the Granth Sahib was the most authoritative work available in English. It was unfortunate that people by and large had failed to follow the philosphy of the Granth. There would be no bloodshed, violence and other such activities once people started following the teachings of the Granth, he said.

Speaking on the occasion Mr Talib's brother, Prof Gurcharan Singh, said Talib had attained the scholarly status through hard work and a rare meditative resolve. His rare command over several languages, cultures and disciplines, and his study of the Islamic, Biblical, and the Hindu mythologies helped him in creating the English translation of the Granth Sahib, he added.

In his welcome address, Dr. H.K. Manmohan Singh, said it was a rare occasion in the history of the university when saints and scholars came together. He presented replicas of Guru Govind Singh Bhavan of the university as mementos to the Dalai Lama and Mr Surendra Nath.

Information Technology at UHF Library

Satyanand Stokes Library of Dr Y S Parmar University of Horticulture and Forestry (UHF), Nauni, Solan, has made research information access easy, accurate and comprehensive by introducing latest information technology in information retrieval. This is one of the first university libraries in the country to install CD-ROM (Compact Disc Read Only Memory) Technology. Each disc has the capacity to accommodate about 2,00,000 printed pages out of which any bibliographic record can be retrieved within a few seconds. CAB's first commercial compact disk project, CABCD, containing all the information on the CAB ABSTRACTS database back to 1984 was launched in late 1989. CAB has so far released three compact discs covering the period from 1984-90. Its first two discs hold nearly 800,000 abstracts and can give instant access on the computer screen. Library has presently two discs: (a) CAB-1984-86 (b) AGRICOLA – 1984-90. Two more CAB-CD would be available for search shortly. AGRICOLA is the Database of National Agriculture Library (USA). The only limitation of this technology is that if cannot keep you up to date in information search. You may miss some latest information published during the last 6-12 months. In view of this, the library is subscribing CURRENT CONTENTS on Diskette with ABSTRACTS (Agriculture, Biology and Environmental Sciences) since April 1990 which is most powerful journal awareness database service from Institute for Scientific Information (USA). This enables the scientists to search and browse the latest bibliographic data from more than 1,000 leading journals covering a variety of disciplines in Agriculture, including Biotechnology, Ecology, Horticulture, Plant Science, Wild life Management and more. This keeps the scientists on the top of the research in their fields every week. In addition the library has developed many in-house computerised databases and also has acquired some international databases on Diskette. Its in-house databases are on: Horticulture, Agriculture and Forestry Research Information; Database on M.Sc. and Ph.D Thesis; Forestry; Periodical Holdings; Books, Temperate Fruits and Floriculture and some more small databases on specific subjects. Besides This Computerised Monthly Addition List which informs the scientists of the recently added documents in the Library is distributed to all Research Stations of the University and other neighbouring universities/ institutions. Local SDI (Selective Dissemination of Information) and CAS (Current Awareness Service) are being generated from Current Contents on diskette with Abstracts which are circulated to the scientists/students of the main campus and Research Stations in the form of – Recent Articles on Vegetable; Horticulture; Forestry; Floriculture; Temperate Fruits etc. Library has also been acquiring different databases from various national and international institutions for the benefit of scientists. Some of them are:

(a) Database on Forestry acquired on diskettes from Nepal-U.K. Forestry Research Project, Kathmandu.

(b) Database on Forestry and Horticulture on diskettes acquired from NRI : Natural Resources Institute, Chatham Maritime, Kent, U.K.

(c) Database of Scientific Periodical Holdings acquired from ICRISAT on diskettes. This is helpful in the location of a particular scientific journal in different libraries.

The Library offers its services to all the scientists and students interested in Agriculture, Horticulture and Forestry Information from all over the country. The searched bibliographical records can be supplied to the requester either in printed format or on diskette from the above databases according to his or her convenience.

Thesaurus on Bengal Dialects

The former Vice-Chancellor of Calcutta University, Dr Bhaskar Roy Chaudhuri, recently released a dialectal dictionary in Bengali, published by Calcutta University, the first of its kind in the Bengali language. This dictionary is a compilation of the numerous words which exist only in the various local dialects spoken in the rural areas of different districts. These words would normally be incomprehensible to anyone not speaking that dialect.

According to Mr. Tushar Mahaptra, Secretary, Bengali manuscripts and publications department, the dictionary would be of enormous help to a large number of people, including research scholars, and various officers of the State and Central Governments who had to work in the backward areas, where people rarely spoke or understood ordinary Bengali, as well as for teachers or doctors, and various other professionals who had to work in such areas.

Mr. Mahapatra, said that the edition of the dictionary published, was only the first volume, and it would be followed by five others. He said the succeeding volumes would also deal with the etymological background of the words in detail, and would therefore provide a record of sociological and historical conditions of a particular period and region, and would, in future be the only source of information on the disappearing folklore of Bengal.

Motorola Project Assistance 1992

In order to develop and nurture international collaboration, the I.I.T. Delhi, has signed two Memoranda of Understandings (MoUs) with the Motorola Inc. Under these MoUs Motorola is committed to the development and dissemination of latest technology in the field of Electronics by way of donating data books and competent grants. The MoUs also provide for the development of undergraduate research programmes by funding 5 projects every year for a period of three years at IIT, Delhi, at the undergraduate level. The five projects awarded under this programme for the year 1992 are listed asunder:

(i) Verification of Control Part in High Level Synthesis of Digital Systems Using "HOL"

(ii) A High Efficiency Linear Audio Amplifier with Digitally Controlled Supply and Digital Tone Controls.

(iii) Robotic Assist System for Micromanipulations with Medical Applications.

(iv) Large Vocabulary Phoneme-based Speech Recognition System on an IBM PC.

(v) Development of a Material Handling Robot.

Computer Application in Libraries

The Indian Library Association (ILA) in collaboration with Sir C R Reddy Autonomous College Library Eluru, Andhra Pradesh, organised the 15th ILA/NISSAT workshop on computer application in Library & Information activities. Sponsored by Dept. of Scientific and Industrial Research, Govt. of India, the Workshop was inaugurated by Sri G.Rami Reddy, District Revenue Officer. Prof G V S L Narasimha Raju of the Dept of Lib & Information Science, Andhra University, Waltair, delivered the keynote address.

The course content of the workshop included introduction to computers, software and computer operations, library automation, storage and memory, bibliographic structure, file management systems, CDS/ISIS, CCF, SAD/DBMS. Special guest lectures were also arranged on DBMS and NICNET and video cassettes shown to the participants on different networks.

In all about 20 librarians drawn from different colleges of Andhra & Nargarjuna University areas were initiated into the use of computers.

Prof. T. Venugopla Rao, Principal, Sir C.R.R. College of Engineering, delivered the valedictory address while Prof. B. Vijaya Lakshmi, Course Director, Sri S S Janardhan Rao, Course Co- ordinator, presented a brief account of contents of the workshop.

Science Academy Awards Announced

The Indian National Science Academy (INSA) has recently announced awards for 1992.

The Meghanad Saha Medal was awarded to Professor Sivaramakrishna, Bhatnagar Fellow, Raman Research Institute, Bangalore, while the Aryabhata Medal went to Professor Obaid Siddiqui, Professor, Tata Institute of Fundamental Research, Bombay.

The Sisir Kumar Mitra Memorial Lecture Prize was given to Professor Khadga Singh Valdiya, Head of the Department of Geology, Kumaun University, Naini Tal and the Kariamanikkam Srinivasa Krishna Memorial Lecture Prize to Professor Kasturi Lal Chopra, Director, Indian Institute of Technology, Kharagpur.

Indira Gandhi Prize for popularization of science was given to Dr. Gajanan Phondke, Director, Publication and Information Directorate, New Delhi.

INSA has also decided to offer INSA-Srinivasa Ramanujan Research Professorship for the year to Professor Goverdhan Mehta, School of Chemistry, University of Hyderabad for his outstanding contribution in the area of synthetic organic chemistry.

Silver Jubilee Commemoration Medal for 1991 was given to Professor Virender Lal Chopra, Director, Plant Biotechnology Centre, Indian Agriculture Research Institute, New Delhi, and the Vishwakarma Medal to Dr Alla Venkata Rama Rao, Director, Indian Institute of Chemical Technology, Hyderabad.

Srinivasa Ramanujan Medal for 1991 went to Professor Madabusi Santanam Reghunathan of the Tata Institute of Fundamental Research, Bombay, and Shri Dhanwantari Prize to Professor Martanda Varma Sankaran Valiathan, Director of Sree Chitra Tirunal Institute of Medical Science and Technology, Thiruvananthapuram.

INSA-Vainu Bappu Memorial Award for 1991 was given to Professor Amal Kumar Raychaudhuri, Calcutta-based senior scientist.

Professor Tiruvenkata Rajendra Seshadri Seventieth Birthday Commemoration Medal for the year 1991 went to Professor Manapurathu Verghese George, scientist of Photochemistry Research Unit, Regional Research Laboratory Thiruvananthapuram.

Open University for Madhya Pradesh

The Madhya Pradesh Government proposes to set up an Open University named after Raja Bhoj. The proposed university, it is reported, would conduct short-term employment-oriented courses of one to six months duration.

Short-term courses include maintenance and repair of agricultural implements, automobile maintenance, child health nutrition and care and environmental and social health.

The students will be imparted education under the distant education system. The University headquarters will be at Bhopal and regional centres and study centres would be set up at various places.

The university would also help provide opportunities of higher education to a large section of the population and to give an impetus to boost education to weaker sections.

News from UGC

Countrywide Classroom Programme

Between 23rd January to 31st January 1992 the following schedule of telecast on higher education through INSAT-1D under the auspices of the University Grants Commission will be observed. The programme is presented in two sets of one hour duration each every day from 1.00 p.m. to 2.00 p.m. and 4.00 p.m. to 5.00 p.m. The programme is available on the TV Network throughout the country.

Ist Transmission

1.00 p.m. to 2.00 p.m.

23.1.92

"Global Perspectives on Nutrition"

"Preserving a Legacy"

"All my sons: Critical Appreciation-III"

24.1.92

"Journalism Education:Making News"

"Childhood Disabilities-II: Indian Scenario’

"Nature’s Comeback"

25.1.92

"Paul Gauguin’

"From Weimar to Rome"

"Week Ahead"

26.1.92

No telecast

27.1.92

"Remote Sensing-XXI: Contemporary Earth Observations Satellites"

"Management-IV: Organisation"

"Seed Processing"

28.1.92

"The world of Complex Compounds"
"Using Audio Visuals"
"Birth Defects: Prevention and Treatment"

29.1.92

"Know them By Dialogue: Talk with Claude Garrigues"
"Impressions on learning Architecture"
"Chemical Carcinogens in Food: An overview"

30.1.92

"Electrical Power"
"Journey to the end of the earth"
"Indian Poetics-I: Language and Poetic Language"

31.1.92

"Understanding the Special ones"
"The Pursuit"

2nd Transmission

4.00 p.m. to 5.00 p.m.

23.1.92

"Programming in PASCAL Language-IV:
Functions & Procedures"
"Rocks"
"Graham Greene: A Portrait by Khushwant Singh"

24.1.92

"Locus of a Point"
"Hauz Khas – Transformation of An Urban Village"
"The Sun's Hidden Treasure"

25.1.92

"Rabindra Sangeet-IV'
"European Modal Music"
"Weekly Programme"

26.1.92

No Telecast

27.1.92

"Remote Sensing-XVII: Appolications of Remote Sensing-II"
"Banks in the Welfare of Students"
"Man & Land"

28.1.92

"Ways of Thinking SEP-V: Play of Light"
"Equilibrium".

29.1.92

"The Image and Icons of Osian"
"RFLP Mapping: Monitoring Genetic Diseases"

30.1.92

"Electromagnetic Interference"
"Glove Puppet Making"
"Context for Jewish Literature"

31.1.92

"Understanding the Special Ones"
"The Pursuit"

Special Grant for Century-Old Colleges

The University Grants Commission (UGC) will provide special grants of Rs. 20 lakhs each to 33 colleges which have completed 100 or more years of existence and have earned recognition for their outstanding contributions to the cause of higher education in the country.

The special assistance is intended to enable the select colleges to meet capital expenditure such as construction of academic building with the UGC share on a 100 per cent basis as commemoration of their centenary.

The scheme also provides for special financial grants to the universities evolved out of such parent colleges as were established 100 or more years ago during the last century but now do not hold their independent status as colleges. The universities will not, however, receive special grants again if their other colleges which were amalgamated in them likewise completed 100 years.

The colleges are: the Maharaja College, Mysore (1850-51); the Presidency College, Calcutta; the Presidency College, Madras; the Agra College, Agra, the CMS College, Kottayam, Kerala; the Bareilly College, Bareilly, Uttar Pradesh; St. Stephen's College, Delhi; the Serampore College, Serampore, West Bengal.

The Scottish Church College, Calcutta; the Hooghly Mohsin College, Hoogly, West Bengal; the University College, Trivandrum; St. Joseph College, Tiruchirapalli, Tamil Nadu (1857); the Central College, Bangalore, Karnataka (nucleus of the Bangalore University), (1858) and the Government Brenner College, Talicherry, Kerala (1862).

The Madras Christian College, Madras; the Ravenshaw College, Cuttack; the Patna College, Bihar (1863); the St. Paul's C.M. College, Calcutta (1865); the Government Victoria College, Palghat, Kerala (1866), the Midnapur College, West Bengal (1873); and the Maharaja's College; Ernakulam, Kerala (1875).

The Zamorin's Guruvayurappan College, Kozhikode, Kerala; the College of Engineering, Guindy, Madras, (1877); the St. Aloysius College, Mangalore, Karnataka (1880); the Maharaja's College, Vizianagaram, Andhra Pradesh (1881); the Hislop College, Nagpur, Maharashtra (1883); the Indore Christian College, Indore; Madhya Pradesh (1884).

The Kanya Mahavidyalaya, Jalandhar, Punjab (1886); the TNB College, Bhagalpur, Bihar; the Samaldas Arts College, Bhavnagar, Gujarat (1887); the Bethune College, Calcutta; the ABN Seal College, Cooch Bihar, West Bengal (1888) and the Holkar Science College, Indore, MP (1891).

AIU Library

Established in 1965, the AIU Library has acquired over the years a valuable collection of books and documents on higher education. Among the topics prominently represented are educational sociology, educational planning, educational administration, teaching & teachers' training, examinations, economics of education and country studies. Developing fields of adult education, continuing education and distance education, and educational technology are also well stocked.

The library is particularly strong in its collection of reports whether they are on the setting up of different universities or on the state of higher education. Files of annual reports of different universities are also maintained. Readers are kept informed of the latest acquisitions through our column 'Additions to the AIU Library'.

The library receives about a 100 periodical titles on higher education. All these are indexed regularly and a select list appears every month as 'Current Documentation in Education'. Similarly our column 'Education News Index' reports editorials and articles on higher education published in over 20 newspapers that are received in the library from all over the country.

The library is steadily building up a collection of audio and video cassettes on matters educational and maintains a well appointed Audio-Visual Room equipped with a double deck audio cassette recorder, a VCR and a colour TV monitor, and an overhead projector.

Doctoral Degrees awarded during the preceding month are reported as 'Theses of the Month', while registrations made for such degrees are flashed as 'Research in Progress'. Bibliographies are also compiled and supplied on demand.

Research Scholars and students of education are welcome to use these resources. The Library is open from 9.00 a.m. to 5.30 p.m. Monday through Friday. Access can also be had through inter library loan for which requisition must be made through your Librarian.

THESES OF THE MONTH

A list of Doctoral Theses accepted by Indian Universities

BIOLOGICAL SCIENCES

Anthropology

1. Basu, Koumari. **Cytogenetic studies in couples experiencing repeated spontaneous abortions.** Delhi.

2. Prabh Simran. **Physical growth, physiological maturity and body composition in Khatris of Punjab.** Punjabi. Dr D P Bhatnagar, Reader, Department of Human Biology, Punjabi University, Patiala.

3. Sandhya Rani, P M. **A biosocial study of reproductive behaviour among the Kaikalas of South Eastern Andhra Pradesh.** Venkateswara. Prof V Rami Reddy, Department of Physical Anthropology, Sri Venkateswara University College, Tirupati.

4. Srinivasa Rao, G. **Population structure of Pattapu and Palle: Marine fishing communities of South-East coastal Andhra Pradesh, India.** Venkateswara. Prof T Ramachandraiah, Department of Studies in Anthropology, University of Mysore, Mysore.

Forensic Sciences

1. Joshi, Sangeeta. **Forensic characterisation of vaginal secretion stains.** Punjabi. Dr Vijay Kumar Sharma, Lecturer, Department of Forensic Science, Punjabi University, Patiala and Prof Ashi R Sarin, Department of Gynaecology, Govt Medical College, Patiala.

Biology

1. Gouda, Rajashree. **An environmental inventory of the Rushikulya Estuary, East Coast of India.** Berhampur. Dr R C Panigrahy, Reader, Department of Marine Sciences, Berhampur University, Berhampur.

2. Pereira, Marie J Shiranee. **Studies on certain aspects on the culture of the pearl spot,** Etroplus suratensis **Bloch.** Kerala. Dr P Natarajan, Prof and Head, Department of Aquatic Biology and Fisheries, University of Kerala, Trivandrum.

Biochemistry

1. Basu, Mila. **Some biochemical studies on anabolic steroid during muscular activity in rats.** Calcutta.

2. Dutta, Utpal. **Studies on the organization and evolution of fish genome with special reference to repeated D N A.** Calcutta.

3. Fazili, Khalid Majid. **Physicochemical properties of acetylated, carbamylated and guanidinated bovine serum albumin.** AMU. Prof Rashid Ali, Head, Department of Biochemistry, Aligarh Muslim University, Aligarh.

4. Ghosh, Dilip Kumar. **Degradation of food dyes by some pathogenic and non-pathogenic bacteria.** Calcutta.

5. Ghosh, Sajal Kumar. **Biochemical and immunological studies on Rota viruses.** Calcutta.

6. Jain, Nikki. **Studies on characterization of bacteriorhodopsin and other pigments using liquid membrane bilayers and their exploitation towards hydrogen production.** Patel. Dr Datta

Madamwar, Reader, Department of Biosciences, Sardar Patel University, Vallabh Vidyanagar.

7. Mago, Nandni. **Some aspects of lipid metabolism in** Candida albicans.. Panjab.

8. Manna, Asimkumar. **Studies on the effects of salinity and chemical pollutant on fish with special reference to behavioural and behavioural-biochemical toxicity.** Calcutta.

9. Raghu, B. **Studies on iron-sequestration mechanism of mycobacteria.** Madras.

10. Raghunathan, K. **Purification, characterization and interrelationship of glutamine synthetases from** Rhizobium leguminosarum. Osmania.

11. Randhawa, Gurinder Kaur. **Immunomodulation in farm animals due to chronic toxicity with organophosphorus pesticides.** PAU.

12. Suguna, L. **Study of therapeutic effect of honey on wound healing in rats.** Madras.

13. Vivekanandhan, S. **Studies on immunological and biochemical aspects in meningitis patients.** Kerala. Dr D M Vasudevan, Prof and Head, Department of Biochemistry, Medical College, Thrissur.

Microbiology

1. Batra, Lalita. **Studies on nodulation and nitrogen fixation by** Casuarina **spp. in salt affected soils.** Panjab.

2. Rahalkar, Sunil Bhaskar. **Biodegradation of organic pollutants by photosynthetic bacteria.** Nagpur. Dr S R Joshi and Dr N Shivaraman, Scientist, Environmental Biotechnology Division, National Environmental Engineering Research Institute, Nagpur.

Botany

1. Dube, Pramod Kumar. **Ecophysiology of some important tropical forest tree seeds.** H S Gour. Dr P K Khare, Department of Botany, Dr Hari Singh Gour Vishwavidyalaya, Sagar.

2. Gaud, Sunita. **Microbiological studies of sewage applied black cotton soil.** Vikram. Dr O P Mall, Department of Botany, Vikram University, Ujjain.

3. Ghosh, Sujita. **Cytotoxicity of a group IV metal in vitro and in vivo.** Calcutta.

4. Ghosh, Sumita. **Studies on host parasite interactions with special reference to myrothecium leaf spot disease of soybean.** Calcutta.

5. Gupta, Anil Kumar. **Studies on the thermophilic fungi with reference to amylase production.** Durgawati. Dr S P Gautam, Department of Bioscience, Rani Durgawati Vishwavidyalaya, Jabalpur.

6. Himgauri, K. **Studies on micro-organisms present in Kukatpally Nalla.** Osmania.

7. Isaacs, Stanley William. **Histochemical investigations in sterile and fertile anthers of sunflower,** Helianthus annuus L. Karnatak. Dr R R Hegde, Reader, Department of Botany, Karnatak University, Dharwad.

8. Janaki Rani, S. **Studies on vesicular-arbuscular mycorrhizal fungi and plant growth in safflower.** Osmania.

9. Maclon, Rita Ramniklal. **Physiology and biochemistry of seed senescence of red gram,** Cajanus cajan **(L) Millsp Var T-15 and cow pea,** Vigna unquiculata **(L) Walp Var G1.** Patel. Dr P M Mehta, Reader, Department of Biosciences, Sardar Patel University, Vallabh Vidyanagar.

10. Manna, Sikha. **On the study of pollen morphology of some Indian Leguminosae (Fabaceae) with special reference to taxonomy.** Calcutta.

11. Menon, Subhadra. **Reproductive biology of** Dalbergia sissoo **- An important Indian tree legume.** Delhi.

12. Mishra, Mamta. **Evaluation of toxicity of a few pesticides and activity of antidote.** Vikram. Dr P S Dubey, Head, Department of Botany, Vikram University, Ujjain.

13. Rajini Rani, D Baby. **Multi-metal resistance in marine pseudomonas.** Madras.

14. Rangacharyulu, D. **Floristic studies of Chittoor District of Andhra Pradesh.** Venkateswara. Prof K Narayana Rao, Department of Botany, Sri Venkateswara University College, Tirupati.

15. Sarnam Singh. **Systematics, ecology and phytogeography of the pteridophytics flora of Tirap District, Arunachal Pradesh, India.** Calcutta.

16. Sen, Rupali. **Palaeofloristic study of the tertiary and pre tertiary sediments of Eastern Himalayan foot hills, Bhutan.** Calcutta.

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5. Gill, Jaspal Singh. **Comparative efficiency of different selection methods for wide adaptation in mungbean,** Vigna radiata **(L) Wilczek.** PAU.

6. Jasbir Singh. **Genotoxicity studies with certain pesticides using barley,** Hordeum vulgare L **as the test system.** HAU.

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14. Rajendran, C. **Influence of seasons on physiology of sorghum,** Sorghum bicolor **L cultivars.** T N Agrl. Dr L Veerannah.

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3. Mohamed Rahmathullah. **Influence of acrylamide on rat brain monoamine levels.** Madras.

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5. Singh, Vijay Kishore. **Reflex effect of J receptors in health and chronic obstructive pulmonary diseases.** Jamia. Prof M Amin, Department of Biosciences, Jamia Millia Islamia, New Delhi and Prof A S Paintal, Director, Indian Council for Medical Research, Ansari Nagar, New Delhi.

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(Deemed University)

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Invites applications for the following posts. Qualification/experience requirements are as prescribed by the University Grants Commission.

Sr. No.	Name of the post	Pay scale and emoluments	Required specialization at the Master's level for respective posts	No. of Vacancies General	SC	ST
1.	Professor in (a) Department of Criminology and Correctional Administration; (b) Unit for Child and Youth Research; (c) Social Work	Rs. 4500-150-5700-200-7300 (minimum: Rs.7385/-p.m.) (maximum: Rs. 10809/-p.m.)	(i) Criminology; (ii) Social Work with specialization in Family and Child Welfare; (iii) Social Work.	3	–	–
2.	Readers in (a) One of the Research Units; (b) Department of Criminology and Correctional Administration; (c) Unit for Family Studies; (d) Dept. of Social Welfare Administration; (e) Department of Research Methodology.	Rs. 3700-125-4950-150-5700 (minimum: Rs. 6385/-p.m.) (maximum: Rs. 8966/- p.m.)	(i) Industrial or Urban Sociology; (ii) Social Work with specialization in Criminology and Correctional Administration; (iii) Psychology, Social Work or Sociology; (iv) Social Work with specialization in SWA/FCW/URCD or generic programme with field work or work experienc in teaching administration or as administrator or Rural Management and 5 years' administrative experience in Social Welfare/Development Administration or Political Science with specialization in Comparative Political Economy/ Sociology of Development; (v) Statistics, Social Work or Sociology.	5	–	–
3.	Lecturers in (a) Department of Family and Child Welfare (**reserved for ST***); (b) Unit for Child and Youth Research (**reserved for ST***);(c) Unit for Urban Studies (**reserved for SC***); (d) Unit for Rural Studies; (e) NSS Unit (temporary for 3 years) (f) Department of Family and Child Welfare; (g) Department of Research Methodology; (h) Department of Research Methodology (**reserved for SC only**).	Rs. 2200-75-2800-100-4000 (minimum: Rs. 4070/p.m.) (maximum: Rs.6685/-p.m.) *General candidates may also apply. They will, however, be considered only if suitable SC/ST candidates are not available.	(i) Social Work with specialization in FCW, or in a generic programme with field work or work experence preferably for 2 years; (ii) Public Helath, Anthropology or Sociology; (iii) Human Geography or Social Work; (iv) Rural Development or Social Work with specialization in Community Development; (v) Social Work, Extension Education or Rural Development; (vi) Social Work with specialization in Family and Child Welfare or in a generic programme with field work or work experience preferably for 2 years; (vii) Population Studies;(viii) Social Work, Sociology or Psychology.	4	2	2
4.	Assistant Librarian	Rs. 2200-75-2800-100-4000 (minimum: Rs.4070/-p.m) (maximum: Rs. 6685/-p.m.)	Library Science/Information Science/Documentation OR Arts/Science/Commerce and Bachelors Degree in Library Science/Information Science/ Documentation.	1	–	–
5.	Assistant Registrar (Publications)	Rs. 2200-75-2800-100-4000 (minimum : Rs.4070/-p.m.) (maximum: Rs.6685/-p.m.)	Jornalism/English/Management/Commerce	–	1	–

Prescribed application form along with detailed information giving qualifications/experience requirements/general instructions can be obtained from the Assistant Registrar (Personel) either in person or by post by sending an application along with a stamped (Rs.4.00) self-addressed envelope and the application fee of Rs. 10/- by Demand Draft drawn in favour of Tata Institute of Social Sciences, Deonar, Bombay. For SC/ST candidates the same will be supplied free of cost on production of caste certificate. The last date for issue of application form is **31.1.1992.** Completed application forms together with copies of certificates should reach the Assistant Registrar (Personnel) on or before **15.02.1992.**

Dr. S K Bandyopadhyay
REGISTRAR

CENTRAL INSTITUTE OF ENGLISH AND FOREIGN LANGUAGES

Hyderabad - 500 007

Advertisement No.I/92

Applications on prescribed form are invited for the following posts in the Institute service so as to reach the undersigned on or before **28.2.1992.**

Sl. No.	Name of the post with scale of pay	No. of posts
1.	Registrar (Rs.4500-150-5700-200-7300)	one
2.	Deputy Finance Officer (Rs.3700-125-4950-150-5700)	one
3.	Medical Officer (Rs.2200-75-2800-100-4000)	one
4.	Public Relations Officer (Rs.2200-75-2800-100-4000)	one

Prescribed application forms and further details regarding qualifications etc. can be had from the Actg. Registrar, CIEFL, Hyderabad-500 007 by sending a DD drawn in favour of Registrar, CIEFL, payable at Hyderabad - 7 for Rs. 10/- (Rs. 2.50 for SC/ST candidates with a self addressed envelope (10x20cm) duly stamped (Rs.2/-) indicating the post which the applicant desires to apply for.

G.Venkateshwer Rao
Actg. REGISTRAR

Date : 6 January 1992

Indian Council of Medical Research

Advt. No. 10/92/Hqrs. Office

Applications are invited upto 20.2.1992 for the following posts in the Hqrs. Office of the Council at New Delhi.

1. **Assistant Director General (MCH) (One Post)** Rs. 3700-125-4700-150-5000 + usual allowances.

Qualifications & Experience: Essential : MBBS with 12 years' research or teaching experience in the field of public health aspects of Maternal & Child Health. Or MD (in preventive & Social Medicine/ Community Medicine/ Epidemiology) with 10 years' research experience.

Desirable : Experience in epidemiological aspects of Maternal & Child Health Research.

Job Requirements : The incumbent is required to plan/coordinate multicentric studies, analyse and report epideomiological studies in Maternal & Child Health etc. under the aegis of ICMR and carry out any other activities assigned from time to time.

2. **Senior Research Officer (One post)** Rs. 3000-100-3500-125-4500 + usual allowances.

Qualification & Experience: Essential : MBBS/Ist Class M.Sc. in Biological Sciences with 6 years' research/teaching experience. Or M.D./M.S or Ph.D. with 2 years' experience in research/ teaching.

Desirable: Experience in management of research in Bio-medical Sciences, preferably in basic sciences such as Allergy, Anatomy, Bio-chemistry, Cell & Molecular Biology, Haematology, Human Genetics, Immunology, Pharmacology, Physiology etc.

Job requirements: The incumbent will assist in the coordination, management and monitoring of research programmes of Bio-Medical Sciences under the aegis of ICMR and carry out any other activities assigned from time to time.

Age (for both posts): Below 45 years. SC/ST candidates allowed relaxation in accordance with Govt. of India rules.

General Conditions: Benefits of pension admissible. Private practice is not allowed. Non-practising allowance as per rules of the Council is admissible to medical graduates only. Candidates called for personal discussion will be paid first/second class rail fare by shortest route for post Nos. 1 and 2 respectively, on production of travel documents. Application from employees working in Central/State Govt./Public Sector Undertakings and govt. funded resarch agencies must be forwarded through proper channel. Application forms can be obtained from the office of the Director-General, Indian Council of Medical Research, Ansari Nagar, New Delhi-110029. Forms duly completed should be sent to the Director General, ICMR, at the same address along with crossed Postal Orders of Rs. 8/- payable to the Director-General, ICMR, New Delhi. SC/ST candidates are exempted from this payment. Incomplete and late application or without postal order will not be entertained. The name of the post/advertisement No. **must be indicated on the application form.**

ANDHRA PRADESH AGRICULTURAL UNIVERSITY

Admn. Office: Rajendranagar
Hyderabad-500030

Advertisement No.1/RC/92, date: 8-1-1992

LIMITED RECRUITMENT CONFINED TO SCHEDULED CASTE & SCHEDULED TRIBE CANDIDATES AS SPECIAL DRIVE

Applications in the prescribed form together with a Registraration Fee of Rs.10/- are invited to the under mentioned posts Associate Professor cadre in the time scale of Rs.3700-5700 (UGC) from qualified candidates belonging to Scheduled Caste and Scheduled Tribe in A.P. Agricultural University, Rajendranagar, Hyderabad-500030 to reach on or before 15.2.1992.

FACULTY OF AGRICULTURE

		No. of posts
1. Genetics & Plant Breeding	–	10
2. Agronomy	–	4
3. Soil Science & Ag. Chemistry		
4. Entomology	–	3
5. Statistics & Mathematics	–	2
6. Horticulture.	–	6
7. Ag. Economics	–	1
8. Plant Pathology.	–	1
9. Extension	–	1
10. Ag. Engineering.	–	3

TOTAL: 32 (SC-20 : ST-12)

FACULTY OF VETERINARY SCIENCE

1. Microbiology	–	1
2. Vety. Medicine.	–	1
3. Pharmacology	–	1
4. Research Officer (temporary likely to continue.)	–	1

TOTAL: 4 (SC-2 : ST-2)

FACULTY OF HOME SCIENCE

1. Human Development & Family Studies	–	1
2. Textiles & Clothing.	–	1

TOTAL: 2 (SC-1 : ST-1)

Note: In case sufficient candidates are not available in one discipline the same would be made up in other discipline to the extent of total number of vacancies available in other disciplines.

Application forms together with full details regarding qualifications prescribed for the posts and other particulars can be had from the University on payment of Rs.10/- in person or through a Crossed Demand Draft drawn from any Nationalised Bank in favour of Comptroller, A.P.Agricultural University, Rajendranagar, Hyderabad-500 030 payable at State Bank of Hyderabad, Ranjendranagar Branch. NO MONEY ORDER/POSTAL ORDERS will be entertained. For obtaining it by post, a self-addressed and stamped envelope of Rs.5/- size 35cm x 15cm. should be enclosed to the requisition letter. The cover containing the requisition for application form should be superscribed "Requisition for Application" and addressed to the Registrar, Administrative Office, A.P.Agricultural University, Rajendranagar, Hyderabad - 500 030.

Prof. S.M.Siddiqui
REGISTRAR

THE MAHARAJA SAYAJIRAO UNIVERSITY OF BARODA

Notification No. ADE/8/91-92

Applications are invited for the following posts in prescribed forms which can be obtained from the University Office on or before **31-1-92** by sending a request to the Registrar, M.S. University of Baroda, Vadodra-390 002, along with a self-addressed envelope of size 30 Cms. x 12 Cms. accompained with a Demand Draft drawn in favour of the Registrar, M.S. University of Baroda of Rs. 50/- (Rs. 15/- for members of Scheduled Caste and Scheduled Tribe) or by producing receipt obtained for payment in Cash from Accounts Section of University Office for the same during working days only between 11.00 am. and 2.00 p.m. No amount will be accepted either by M.O. or by Postal Order except in cases of SC/ST where they can send Postal Order of Rs. 15/- or pay the amount in cash as stated above. The SC/ST applicants will produce a copy of the Certificate to that effect at the time of requesting for application form. The SC/ST candidates coming from outside Gujarat State will also have to produce a Certificate from the competent authority of the Gujarat State mentioning that the Gujarat State has recognised them as SC/ST for the purpose. (The amount of Rs. 50/- and Rs. 15/- includes the cost of application form and the application fee).

I. Faculty of Technology & Engineering

Professor of (1) Textile Engineering

Reader in (2) Textile Engineering (3) Civil Engineering

II. Faculty of Law : Professor of (4) Law. The candidates who have already applied earlier in response to the University Advt. No ADE/8/1990-91, dt 2.2.91 with commercial Law need not apply again. Their earlier applications will be considered.

III. All India and Central Services Training Centre (5) Deputy Director

IV. Faculty of Fine Arts : (6) Documentation Officer

V. Computer Centre :

(7) Director (8) System Analyst

VI. Faculty of Management Studies

(9) Training and Placement Officer

VII. University Library System

(10) University Librarian

(11) Assistant Librarian

VIII. University Office (Construction Division)

(12) Deputy Executive Engineer

Scale of Pay:

Posts at Sr. Nos. 1,4,7,10 : Rs. 4500-7300
Posts at Sr. Nos. 2,3,5 : Rs. 3700-5700
Posts at Sr. Nos. 6,8,,9,11,12 : Rs. 2200-4000

Reservations:

Posts at Sr. Nos. 6,9,11 (One post) are kept reserved for Scheduled Tribes candidates. Only ST Candidates should apply. The application forms duly completed in all respect along with necessary enclosures should reach the Registrar, M.S. University of Baroda, Vadodara-390-002 on or before **15.2.92.**

Note:

1. The candidates will abide by the rules and regulations of the University. Before filling up the form the candidates are requested to read very carefully the instructions printed on the Application Form attached with the Notification (a copy of which will be supplied alongwith the Application Form).

The completed forms will be received during working days upto **15.2.1992** as stated above.

D.P. Chhaya
REGISTRAR

TILAK MAHARASHTRA VIDYAPEETH

Pune-411037

(Deemed University)

Advt No. 91-92/9

Applications are invited in the prescribed form for the post of Registrar. The last date for the receipt of applications is **15 February 1992.**

Unrevised Scale of Pay : Rs. 1100-50-1550-75-1700 plus allowances as approved by the Government of Maharashtra. (The pay-scale of Rs. 1500-2250 on par with other non-agricultural universities at present will be given on receipt of approval of the Government of Maharashtra. Further, scales of pay as per Fourth Pay Commission will become applicable in case the Government extends these scales to non-agricultural universities including Tilak Maharashtra Vidyapeeth, a Deemed University.)

Educational Qualifications and Experience

(1) Postgraduate degree in the faculty of Arts/Commerce/Science/ Law of a recognised University in at least second class.

(2) At least ten years' administrative experience in a responsible executive position Or at least seven years' teaching experience in a college or a University Department and three years' administrative experience.

(3) Proficiency in Marathi language.

(4) Experience regarding University Examinations Work is desirable.

Age Limit

The candidate shall not be ordinarily below 35 years and above 50 years of age.

The prescribed form of application in 6 copies can be obtained from the Vidyapeeth Office on payment of Rs. 10.00 in person or by sending crossed Indian Postal Order/Demand Draft of Rs. 20.00 (payable to the Registrar, Tilak Maharashtra Vidyapeeth, Vidyapeeth Bhavan, Gultekadi, Pune-411037) by registered post.

Prin. V.K. Nulkar
Acting REGISTRAR

UNIVERSITY COLLEGE OF MEDICAL SCIENCES & GURU TEG BAHADUR HOSPITAL

SHAHDARA, DELHI-110 095

Ref : Advertisement No. MC/Estab./2/11/91/IV dated 16.12.1991 appearing in Times of India, dated 16.12.1991.

The requisite experience for the post of Professors, Readers and Lecturers advertised is as follows :

Experience : **Professor** : 5 years as Reader/Associate Professor, **Reader** : 3 years as Lecturer/Asstt. Professors, **Lecturer** : 3 years as Demonstrator/Registrar/Resident out of which one year after P.G.

The last date for receipt of application has been extended to **31.01.1992.**

PRINCIPAL

INDIAN INSTITUTE OF MANAGEMENT

LUCKNOW

Indian Institute of Management, Lucknow was set up in 1984. It is the fourth national level Institute of Management besides Ahmedabad, Calcutta and Bangalore. The Institute has different areas of activities namely: Post Graduate Programme, Executive Development Programmes, Research and Consultancy. In the near future it has plans to start Fellowship Programme and Management Teachers Programme. The Institute has substantial growth plans in every area. It is planning to move to the permanent campus in April 1992. The Institute has identified the following institutional interest areas for research and developing centres of excellence:

(1) Health Management (2) Rural Management (3) Entrepreneurship (4) Environment Management (5) State Enterprise Management & (6) Information Management.

FACULTY POSITIONS

The Institute has substantial plans to increase the faculty strength in the following functional areas at all levels. Special preference will be given to those who have experience in research work in the institutional interest areas in addition to their functional specialization.

1. Financial Management
2. Management Accounting
3. Marketing Management
4. Personnel Management
5. Organisational Behaviour
6. Computer & Information System
7. Operations Management
8. Operations Research
9. Business Policy/Strategic Management
10. International Marketing/International Finance/International Management

Qualifications & Experience requirements are as follows:

ASSISTANT PROFESSOR (3700-5700)
Total Emoluments Minimum Rs.5560/-

Ph.D. with first class of equivalent (in terms of grades etc.) at the preceding degree in the appropriate functional areas with a very good academic record throughout and atleast 3 years teaching/ research/industrial experience.

ASSOCIATE PROFESSOR (4500-6300)
Total Emoluments Minimum Rs.6360/-

Ph.D. with first class or equivalent (in terms of grades etc.) of the preceding degree in the appropriate functional areas with a very good academic record throughout and a minimum of 8 years teaching/research/industrial experience with demonstrated interest in Management Education, out of which 3 years will have to be at the Assistant Professor level.

PROFESSOR (5100-7300)
Total Emoluments Minimum Rs.7113/-

Ph.D. with a very good academic record throughout and a minimum of 10 years teaching/research/industrial experience of which 5 years will have to be at the Associate Professor level.

Those, not having Ph.D. degree but having relevant managerial executive experience of 15 years with a very good academic background and demonstrated interest in Management Education may also be considered.

Upper age limit for all the posts is 50 years.

Experience requirements may be relaxed in case of exceptional candidates.

The rate of D.A. and other service conditions for these positions are generally those applicable to other Central Government Institutions. The Institute would normally be able to provide residential accommodation to all the faculty members.

APPLICATIONS SHOULD BE ADDRESSED TO THE DIRECTOR, INDIAN INSTITUTE OF MANAGEMENT, POST BAG NO.2, ALIGANJ EXTENSION POST OFFICE, LUCKNOW-226 020 so as to reach him by **10.2.1992.** The applications should indicate the post, the applicant's educational qualification, age, experience, papers published, details of present responsibility, salary drawn and expected. The applicants for faculty position who had applied earlier and wish to be considered for the faculty positions now are advised to reapply

For every area please send separate application.

THAPAR INSTITUTE OF ENGINEERING & TECHNOLOGY
PATIALA

Advt.No.PAS/5/91

Applications are invited for the following permanent posts in the School of Computer Science & Technology in the Institute.

Designation	Posts	Specialisation	Scale of Pay
PROFESSOR	1	Computer Science	Rs.4500-150-5700-200-7300
ASSISTANT PROFESSOR	1	Computer Science	Rs.3700-125-4950-150-5700
LECTURER	2	Computer Science/ Management Science	Rs.2200-75-2800- 100-4000

The essential qualifications and experience for the posts are as approved by the Union Ministry of Human Resource Development (Department of Technical Education).

The information leaflet along with the prescribed application form can be obtained from the office of undersigned in person or by sending a self addressed 22x30 cm envelope with postage stamps of Rs.3.00 affixed to it. Last date for receipt of application is **31.1.1992.**

A. Juneja
REGISTRAR

MOHANLAL SUKHADIA UNIVERSITY : UDAIPUR

ADVERTISEMENT NO. 1/92 Dated : 4th Jan., 1992

Applications are invited on prescribed application form for the following posts on regular basis. Application form alongwith details of qualifications can be obtained from **Deputy Registrar (Recruitment), University Office, Udaipur,** on payment of Rs. 10/- by cash/I.P.O. payable to Mohanlal Sukhadia University, Udaipur - 313001 alongwith a self-addressed envelope of 27x12 cms. with postal stamps of Rs. 3/- affixed on it. **LAST DATE** for receipt of application in all respect is **07.02.1992.**

1. **REGISTRAR**-1 : PAY SCALE : Rs. 3700-125-4700-150-5000.

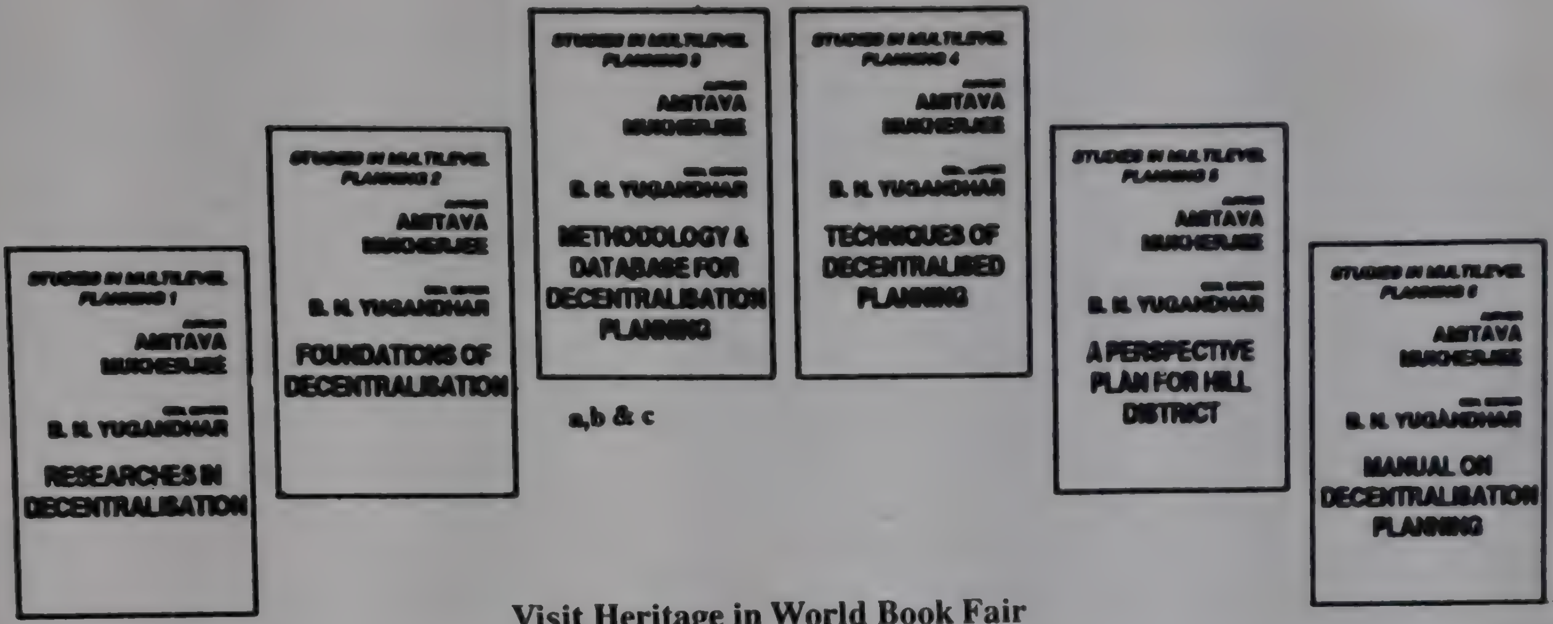
2. **DY. LIBRARIAN**-1 : PAY SCALE : Rs. 3700-125-4950-150-5700.

Those who have already applied for the post of Dy.Librarian in response to our earlier advertisements should also apply afresh. Their earlier application will not be entertained.

NOTE :

1. The University reserves the right not to fill up the post advertised. 2. Candidates, who are in service, should apply through proper channel. 3. Application received on plain paper or after last date will NOT be entertained. 4. Mere applying for the post shall not entitle a candidate to be called for interview.

REGISTRAR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UNIVERSITY NEWS, MONDAY, JANUARY 20, 1992 Regd. No. R.N. 7180/63 Postal Regd. No. DL – 11106/92

RECENT RELEASES

I. HARDWARE AND SOFTWARE OF PERSONAL COMPUTERS

-BOSE, SANJAY K.

Brief Write-Up :

Devised as a text, this book will also be of great interest to practising engineers and professionals. It provides the significant hardware and software details for IBM - PC's and also gives a comprehensive description of the functions and working of the PC. A set of objective questions will help the reader review his understanding of the subject.

Pages : 272 Paper Price : Rs.75.00

MICROPROCESSOR ARCHITECTURE, PROGRAMMING AND APPLICATIONS WITH THE 8085/8080A

-GAONKAR, R.

Brief Write-Up :

The text is intended primarily for undergraduate students in technology and engineering curricula. The treatment of the microprocessor is comprehensive, covering both theoretical concepts and practical applications using the 8085/8080A microprocessor family for illustrations. Part I focusses on the microprocessor architecture and related hardware; Part II introduces programming; and Part III integrates hardware and software in interfacing and designing microprocessor-based products. Each topic is covered in depth from basic concepts to industrial application and the topics are illustrated by numerous examples with complete schematics. The material is supported by assignments using practical applications.

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University News

MONDAY, JANUARY 27, 1992

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Network for Medical Research

MINISTRY OF HUMAN RESOURCE DEVELOPMENT

(DEPARTMENT OF EDUCATION)

MEXICAN GOVERNMENT SCHOLARSHIPS 1991-92

Applications on plain paper are invited from Indian nationals for the award of four scholarships offered by the Government of Mexico in the following subjects:-

(1) Mexican and Latin American Studies; (2) Pre-Colombian studies; (3) Spanish Language and Literature (4) Sciences (Physics, Mathematics) and (5) Agricultural Sciences (a) Plant Breeding (b) Plant Physiology (c) Bio-chemistry (d) Agronomy (e) Molecular Genetics (f) Soil Microbiology (g) Entomology; and (h) Dairy Science

DURATION: Initially one year and can be extended for one more year in suitable case.

VALUE: The scholarships will consist of a monthly allowance of Mexican Pesos 892,500/- which will be paid according to academic background, Life Insurance and Insurance against accident, Medical attention, Inscription charges and fees.

PASSAGE COST: The cost of passage from Mexico to India will not be borne by the Mexican authorities. Travel expenses will be borne by the candidates or his/her Sponsors/Employers. Subject to availability of funds, the passage cost may be met by the Government of India provided the candidate is eligible under the rules.

AGE LIMIT: 33 years as on 1.4.1992, relaxable upto 2 years in upper age for SC/ST candidates.

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Editor :
SUTINDER SINGH

Higher Education Needs a New Paradigm

Anand Sarup*

The major problem of higher education is that it has ossified within a framework of objectives, values, methods and procedures which were evolved in the 19th century to suit the conditions and needs of that era. Since then, the world has changed very radically. During the last 100 years, in most countries, the share of agriculture in national product and also in employment, has decreased very substantially. On the other hand, the importance of the tertiary sector has increased beyond all expectations and innovative products based on new technologies are rapidly overtaking the place of conventional products based on natural resources.

In the rapidly changing scenario, the 19th century model of Indian education is unable to cope with the demands of the present and the coming decades. This does not mean that all products of higher education are useless. Surprisingly, a substantial number of people capable of handling contemporary problems do emerge from it. However, these people are only a fraction of the total output of higher education and their development is often the combind result of an enlightened home environment, an inborn innovativeness and the influence of an unusually live and forward looking faculty.

Notwithstanding these exceptions, whose absolute number may be substantial, the fact remains that with the fossilization of education, most of the inputs going into higher education are yielding poor results. There is a general feeling among parents, students, teachers and the employers, that most of the pupils in the system of higher education do not need or deserve to be there and also that the preponderant majority of graduates do not learn anything of lasting value in our colleges and universities.

At one time, it was expected that any graduate would be able to express himself, verbally and in writing, with some clarity and precision, at least in the language of instruction. Now, one cannot be sure even of this. On the other hand, what is being taught in most of the courses has little value in later life because it is being imparted mainly as 'information' for the limited purpose of memory based examinations. There is no emphasis on enabling the students to think for themselves or use their initiative in raising and answering unanticipated questions or to relate the information provided through course curricula to the real life around them. Actually, our system of higher education is thwarting rather than encouraging the very attributes on which the country will have to rely for its success in the 21st century.

The unwillingness of the politicians or entrepreneurs to provide adequate funds for education is essentially a reflection of the general perception about moribundity of education in general and higher education in particular. The system is being kept alive with minimum expenditure largely because, in the absence of an alternative, colleges and universities serve a useful purpose either to disguise unemployment or to provide degrees which define eligibility for employment. However, even for determining eligibility, the degrees of most of the institutions of higher education have become suspect.

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That is why, people are talking of delinking degrees and jobs and prestigious technical institutions as well as well-established private and public sector employers are going in increasingly for their own tests to assess the capabilities of degree holders. It is significant that today, for preparing students aspiring either for prestigious jobs or securing admission in technical institutions, private coaching colleges enjoy better credibility than recognized public-funded institutions.

Perhaps the abysmally low fees collected for colleges and universities are both the cause as well as the reason for the devaluation of these institutions. If the fees charged were commensurate with real costs, parents and students would demand much more from the teachers and institutions. This pressure would inevitably result in a thorough overhaul of the course-curricula as well as the quality of teaching and examinations.

Considering the challenges facing us, it is imperative that we should judge our colleges and universities from the viewpoint of value addition to the capabilities of students entering their portals. Once this approach is adopted, everything will undergo a radical change. Parents and students paying realistic fees would assess higher education in the context of individual needs, individual costs and the value addition in terms of the capability of individual students to think, articulate, perform their day to day functions with competence and dexterity, and also get jobs commensurate with the expenditure. Similarly, the funding agencies such as the government, private endowments and entrepreneurs would also start evaluating higher education in terms of social needs, social costs and value addition in terms of the acquisition of socially desirable values, civilized and democratic patterns of behaviour and knowledge and skills relevant to the economic and socio-cultural development of society.

One of the consequences of this paradigm of need-cost-value addition may well be the evolution of mechanisms for monitoring and evaluation within a decentralised system of education. Quite obviously those — parents and others who pay a substantial amount for higher education will want to have an effective say in its working in order to obtain appropriate returns from the expenditure incurred by them. In the situation envisaged, the government too would not give unconditional recognition or grants to any institution. It too would demand results commensurate with general or specific subventions made by it.

It is possible that the approach suggested above will result in the closure of many colleges and universities. No one needs lament this possibility. Many documents of the Education Ministry, the report of the National Commission on Teachers and recent study conducted by well known academicians have shown that many universities and colleges, particularly in Bihar and Uttar Pradesh, have been non-functional for years!

Undoubtedly, we need to spend much more per capita and per institution on higher education. We also want these institutions to become catalytic centres not only for general development but also for the benefit of the disadvantaged groups, specially in the backward areas. That is why every proposal for realizing fees commensurate with the real cost of education envisages merit-cum-means based loans and grants for special categories of students. It is, however, time we recognize that neither the goals of rapid economic development nor of equity can be served by non-functional institutions imparting an education which has neither any intrinsic value nor any relevance to the challenges of today and tomorrow.

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The Status of Research & Development
A Global Perspective

Mohan Panse*

Introduction

The crucial role of science & technology as an instrument of socio-economic change had been accepted as a major objective of planning in India. Through the Science Policy Resolution (1958), the Technology Policy Statement (1983) & Industrial Policy Statements (1948, 56, 80), the Govt. of India has given explicit recognition to the indigenous research and development (R&D) in science & technology. A conscious effort to raise technological capabilities has been the central theme of the development strategy in our five year plans.

The great vision of our planners and policy makers and the hardwork of our scientists and engineers has brought India to the forefront of developing countries in the world today. In 1947, no finished product was exported, but today around 150 different categories of finished products are being exported. India's exports have been growing remarkably well. India's achievements in peaceful applications of nuclear energy, space technology, computer software have received worldwide recognition. Today, India plays an important role in the United Nations not only as a recipient of technological knowledge but also as a donor. We provide about 100 experts to the UN system and around 1500 fellowships per year.

Assessing Country's Commitment to R&D

One of the indicators used to assess a country's commitment to R&D is the percentage of Gross National Product (GNP) spent on R&D. India's expenditure on R&D has increased from 0.2% of GNP in 1958-59 to more than 1% of GNP in 1986-87. Corresponding figures of developed countries are U.S.A. (2.8%), Japan (2.9%), West Germany (2.8%), U.K. (2.2%) & U.S.S.R. (4.9%).

The second indicator is the proportion of manpower engaged in R&D. India's stock of technical manpower has been growing at the rate of about 9% per year and is now estimated to be about 3.5 million. After USA and USSR, India today ranks third in the world as regards technically qualified manpower. However, considered population-wise, these figures are not so impressive. The number of scientists and engineers per 10,000 population in India is hardly 22 and technicians number around 8, but the corresponding figures in U.S.A. are 83 & 43 and in the USSR they are 311 & 456 respectively. Further, a matter of great concern is that hardly 6% of India's technically qualified manpower is engaged in R&D compared to 32% in the U.S.A. and 14% in the USSR.

The Status of R&D in some Developed Countries

U.S.A.

In the U.S.A., the government supports basic research (through the National Science Foundation, NSF). But it supports applied research only for the products associated with defence & space programs. Out of the total expenditure on R&D, 2.8% of GNP, 0.8% was the defence R&D expenditure. As the cold war is over and with the reduced tension between the East & the West, defence R&D is likely to be reduced and diverted to non-defence industrial R&D.

The U.S. Congress legislation has reorganised the Department of Commerce to update its technology branch, & requested the Office of Science & Technology Policy (OSTP) to evaluate critical techologies biennially. The Congress has passed bills to reform laws to enable industry to make better use of Federal Laboratories. At the same time, State Governments in addition to the tax breaks and low-interest financing they normally use to attract business to their region. The hope is that jobs will be created and that the State tax base will be increased. Some States have set up research & technology parks.

The U.S.A. is the world leader in fundamental research and has the strongest academic research system very well linked to industrial research system. Also, resources diverted from defence R & D would enhance the international competitiveness of the U.S. industry.

Japan

In Japan there is very little defence R & D. Instead, emphasis is on transferring ideas to the market place (market oriented applied research). Efforts by com-

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panies are coordinated by the Agency of Industrial Science & Technology (AIST) attached to the Ministry of International Trade & Industry. Only 20% of Japan's total R&D budget (2.9% of GNP) is funded by the government.

Though Japan is very strong in applied research, the infrastructure for fundamental research is weak. Compared to the U.S.A., Japan spends far less on academic R & D. In the next decade, Japan expects to increase funding for basic research, especially at universities. Also, Japan has the biggest overseas commitment to R & D, especially in the U.S.A. More than 100 Japanese organisations are engaged in R & D in the U.S.A.

The European Community

The 12 countries of the European Community (EC) are already cooperating in many R & D projects. Perhaps the best example of the EC's cooperative R & D efforts is the European Strategic Program for R & D in Information Technology (Esprit), which has launched about 400 projects successfully. They hope for still greater coordination by 1992, when a United European Market becomes a reality.

The most successful European nation has been West Germany, where basic research is done through Max Planck Society and applied research is done through Fraunhofer Society. About 70% of R & D funding comes from the Federal Ministry for Technology & Research.

The Status of R & D in India

After independence India embarked on an ambitious five year planning for rapid socio-economic development. The Govt. of India announced its Industrial Policy in 1956 accepting the establishment of a socialist pattern of society as the goal of economic policy. Accordingly, the Second Plan (1956-61) aimed at rapid industrialisation with emphasis on the development of the infrastructure for basic and heavy industries. India had to import technology for iron & steel industry, heavy engineering, chemicals, fertilisers, mechine tools etc.

By the beginning of the Third Plan (1961-66) the Indian planners felt that the Indian economy had entered the 'Take-off State' and that the first two plans had generated an institutional structure needed for further economic development. Consequently, the Third Plan set as its goal, the establishment of a self-reliant and self-generating economy. Emphasis was laid on building competence and expertise in various branches of science and technology by creating appropriate infrastructure. Till 1970, there were following five organisations carrying out basic research :

1. Dept. of Atomic Energy (DAE)
2. Defence Research Development Organisation (DRDO)
3. Indian Council of Medical Research (ICMR)
4. Council of Scientific & Industrial Research (CSIR)
5. Indian Council of Agricultural Research (ICAR)

Subsequently, the Govt. of India initiated –

- Dept. of Electronics (1970)
- Dept. of Science & Technology (1976)
- Dept. of Environment (1980)
- Dept. of Ocean Development (1981)
- Dept. of Non-conventional Energy (1982)
- Dept. of Bio-technology (1986)

Since 1973, a scheme for recognition of in-house R & D units in the industrial sector is being operated by the Dept. of Science & Technology. For promoting R & D in industry the government gives liberal incentives for setting up in-house Research Design Development (RDD) units, free licensing of industries based on indigenous technology, liberal fiscal incentives, provision of increased investment allowance for using indigenous technology, etc.

Despite these measures, R & D remains practically confined to government laboratories and institutions. Today the industrial R & D efforts contribute only 20% of the total national R & D efforts. Although there are 1080 R & D units (in both public and private sector), only 0.7% of the sales turnover is invested in R & D, mostly by the Central Government. The Science Advisory Council has reported that the health of industrial R & D is a matter of great concern. As a developing country facing enormous socio-economic problems, the task ahead is gigantic.

Suggestions

1. India's expenditure on R & D (as % of GNP) needs to be increased. But due to the financial crisis in the country the government may not be in a position to make any substantial increase in R & D budgetary allocation. It is the time for our industry to take up initiative for mobilising more resources for stepping up R & D activities. Cooperative R & D through consortia or joint ventures must be encouraged.
2. Academic R & D in India should be changed

radically with greater emphasis on industry sponsored research projects. The cooperation between industry and institutes or universities would partially reduce financial burden on government for supporting higher education. Such a cooperation would also help to redesign our courses of higher education to suit industrial need further ensuring optimal utilisation of technically qualified manpower.

3. Indian industries can enhance competitiveness by adopting certain measures such as

   i) a cross-functional team work approach with manufacturing, materials, quality & reliability, marketing personnel having open & frequent communication. This approach will result in quicker product introduction in market; thus enhancing competitiveness.

   ii) Techniques like computer aided design (CAD), simulation help eliminate prototype and thus the high cost and time needed for it. Industrial productivity can be increased by applying modern techniques of value analysis, time & motion study, ergonomics etc. Increased industrial productivity means increased competitiveness of our industries in national and international markets.

   iii) Standardisation – both of components & of design features (to be stored in database) must be accorded topmost priority as standardisation plays a vital role in cost reduction and quality control.

The Future

The end of cold war, German re-unification, and the advent of unified European Market (1992) has intensified global competition. The status of R & D worldwide is undergoing profound transformation to meet the challenges of 21st century. It is the dynamism of our R & D' that would decisively determine our competitiveness in the global market and consequently our future economic growth.

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ISRO-UGC Talk-Back Experiment in India

D.R. Goel*
Kiran Jaiswal*

The UGC Countrywide Classroom (CWCR) programme has been telecast on Doordarshan's National Network since August, 1984 on all working days from 1:00 p.m. to 2:00 p.m. and 4:00 p.m. to 5:00 p.m. In a normal ETV system a recorded programme is telecast from the Doordarshan TV studio. The signals go from the TV studio to earth station in Sikandrabad and then to the INSAT-1 Satellite. The received signals from the Satellite are then retransmitted by all the high power as well as low power TV transmitters, so that same programme is available across the entire country.

In a normal classroom situation teacher talk is followed by questions by students, which are then responded to by the class teacher. The questions as well as answers are heard by all the other students. At present the communication through CWCR ETV programmes is one way because the viewers cannot communicate back to the TV teacher in the interactive mode. In mass communication one of the major difficulties is how to interact with the viewers on line? How to match the programme to heterogeneous groups? However perfect, the ETV programme is rarely self contained. The viewers very often have many questions on viewing the ETV programmes. The problem is how to direct these questions to the TV teacher and get responses on line. Can there be a telephone or satellite network through which the viewers can put their questions to the TV teacher during/after viewing the CWCR programme? Can such questions be responded by the TV teacher and mass communicated (Talk- back/Interaction)? Can the talk-back mode improve the effectiveness of CWCR programme? To sift such clouded queries the production, presentation, suitability and utility dimensions of talk-back mode need to be studied more thoroughly and analytically.

To study the feasibility of two way communication in CWCR programme, the ISRO (Indian Space Research Organisation)-UGC (University Grants Commission), talk-back experiment in India was conducted from 25th Nov. to 30th Nov. 1991. Later on such a system can become an operational system. Twelve CWCR programmes were selected for telecast. For conducting this experiment, different agencies, namely, UGC, SAC (Space Application Centre), DECU (Developmental Educational Communication Unit), ISRO (Indian Space Research Organisation), AVRCs (Audio Visual Research Centres), EMRCs (Educational Media Research Centres) and Doordarshan collaborated. In this system a pre-recorded programme was beamed from the ISRO Delhi, earth station to the INSAT-1D Satellite and then received back by a normal TVRO and easily transmitted by a TV transmitter on VHF or UHF. This ETV programme was received by students sitting in the classrooms. Ahmedabad, Calcutta, Hyderabad, Madurai, Roorkee and Patiala were the centres selected for talk-back. Two of these centres, namely, Jodhpur and Imphal were linked with the studios at Delhi through Satellite INSAT-1D, whereas, the remaining six centres were linked through the public switching telephone network (PSTN). The students of Jodhpur and Imphal asked questions back through the talk-back terminal. These signals were received and relayed by INSAT-1D Satellite and then received by ISRO, Delhi, earth station. The talk-back from the remaining six centres was facilitated through straight trunk dial (STD) of public switching telephone network. The responses by the TV teacher to the questions raised by the viewers, were communicated through the Satellite and then received through receive-cum-relay transmitters and VHF sets.

To facilitate the talk-back experiment one bilingual moderator was available at each media centre for the experiment. His main role was to establish the link between the resource person and the student. He moderated the student question, and translated it into English, if required. At the Delhi studios the questions were responded to by the resource person – the scripter. In addition to the resource person there was an anchor person to help the resource person in receiving questions from various media centres. The resource person was accompanied by a Delhi-based expert.

Objectives

(i) To analyse the ISRO-UGC talk-back experiment in terms of :

(a) Ratio of the CWCR pogramme and their talk-

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back session.

(b) Contents, quality, clarity, presentation style and frequency of questions raised by the viewers from the different viewing centres.

(c) Contents, quality, clarity, presentation style and length of the responses given by the experts.

(d) The extent of suitability of moderator and anchor person.

(e) Relative roles of the scripter and Delhi-based expert.

(ii) To explore the possibilities of talk-back operational system in India.

(iii) To suggest measures for the improvement of the programmes.

Sample Programmes

Twelve CWCR programmes telecast under ISRO-UGC, talk-back experiment, along with talk-back, from 25/11/91 to 30/11/91, two each day, constitute the sample for the study. The names of the programme, along with the production centre, date of telecast, time of CWCR programme and time of talk-back session are presented through Table-1.

Tool

To analyse the talk-back mode of CWCR programme the investigator constructed a "Countrywide Classroom Programme Talk-Back Experiment : Analysis Tool". It includes close ended items which are related to ratio of programme and their talk-back, total no. of questions, clarity of questions, types of questions, length of questions, structure of questions, presentation of questions, level of questions, moderation of questions, and direction of questions by anchor person. Also the tool includes items related to treatment of questions by the experts in terms of analysis, and preciseness of responses, language clarity, speed of delivery, audio/video form of responses, response time and adequacy of individual response.

Data Collection

The investigator viewed the CWCR programmes with talk-back on the CWCR talk-back analysis tool.

Findings

(i) The ratio of CWCR programme telecast and talk-back session ranges from 1.2:1 to 2.5:1. Now the question is that what should be the ratio of CWCR telecast and talk-back. Should it be same for all the programmes? Should it vary from programme to programme?

(ii) 58% of the total questions asked during talk-back were clearly audible, 33% partially audible, whereas, 9% were not at all audible. Maximum percentage of the clearly audible questions (23%) was from Roorkee, whereas, minimum (3%) from Maudrai. Imphal too was low on clear audibility (4%).

(iii) More than 75% of the questions raised by each of Jodhpur, Roorkee, and Patiala viewers were clearly audible. 23% of the total questions raised by

Table —1

Name of Programme	*Production Centre*	*Date of telecast*	*Time of CWCR programme*	*Time of talk-back*
1. The Battle for life	AVRC, Roorkee	25-11-'91	1:8-1:20	1.22- 1:30
2. The world of adhesives	EMRC, Hyderabad	25-11-'91	1:30-1:47	1.48-1:56
3. The electrical circuits-5	EMRC, Ahmedabad	26-11-'91	1:4- 1:16	1.16-1:24
4. Soil erosion	AVRC, Osmania Univ., Hyderabad	26-11-'91	1:24- 1:44	1.44-1:52
5. India an Idea	MCRC, JMI, Delhi	27-11-'91	1:1-1:16	1.16- 1:22
6. Understanding Cinema	EMRC, Pune	27-11'91	1:23-1:42	1.43- 1:52
7. Everybody says I	AVRC, Calcutta	28-11-'91	1:2-1:18	1.18- 1:26
8. Kiradu — An oasis in the desert	AVRC, Jodhpur	28-11-'91	1:27- 1:44	1.45-1:53
9. Roads and Road developments	AVRC, Madurai	29-11-'91	1:2- 1:18	1.18-1:27
10. Economic growth in India	EMRC, Ahmedabad	29-11-'91	1:27- 1:43	1.44-1:53
11. Banking-1, Types of deposit accounts	EMRC, Pune	30-11-'91	1:2-1:18	1.18-1:28
12. Leadership in management	MCRC, JMI, Delhi	30-11-'91	1:29- 1:41	1.41-1:51

Imphal were clearly audible, whereas, 13% of the total questions raised by Madurai were clearly audible. 12% of the total questions raised by each one of Ahmedabad, Hyderabad and Madurai viewers were not at all audible. Maximum number of questions (17%) were put by Roorkee, whereas, minimum number of questions (10%) were put by each one of Imphal, Jodhpur and Patiala.

(iv) The average talk-back time per question ranges from 30 seconds to 60 seconds. On an average the talk-back time per question was 48 seconds. In 80% programmes the average talk-back time per question was about one minute.

(v) Fifty-eight percent of the questions raised by the viewers during talk-back were 'What' type, 30% 'How' type, whereas, 12% 'Why' type.

(vi) Ninety-one percent of the questions raised during talk-back session were precise, well structured, and focussed, whereas, 9% were not.

(vii) All the talk-back questions were at the level of the CWCR programme.

(viii) Out of the partially audible questions, 71% of the questions were not clear to the viewers but clear to the experts, whereas, 29% of the questions were not clear to the viewers as well as experts.

(ix) Almost all the questions were well moderated, if required.

(x) Twenty-seven percent of the questions were anchored by the anchor person and it was required, 15% of the questions were anchored but it was not required, 18% of the questions were not anchored but it was required, whereas 40% of the questions were not anchored and also it was not required.

(xi) 57% of the questions were treated by TV expert or scripter, 33% by Delhi-based experts, whereas, 10% of the questions were cordially treated by the scripter and Delhi-based expert.

(xii) 93% of the responses of the studio team were clear, 5% partially clear, whereas, 2% responses were not clear.

(xiii) 87% of the questions were adequately treated by the experts, wherease, 13% were not adequately treated.

(xiv) The speed of delivery of responses was suitable in almost all the programmes.

(xv) Eighty-two percent of the questions were promptly responded by the experts, whereas, on 18% questions the response time was more than required.

(xvi) 78% of the responses to the talk-back questions were of optimum length, 8% short, whereas, 15% responses were too long.

General Observations

It is evident through the above presentation that the ISRO-UGC CWCR talk-back experiment was conducted reasonably well. The selection of all the twelve programmes for the experiment to be supplemented through talk-back was done quite carefully keeping in mind the subjects and time available. The studio team constituted of anchor person, scripter and Delhi-based expert generally did reasonably well. There is a need to explore the factors which decide the volume of the talk-back. Seemingly some of the factors could be difficulty level of the programme, level of viewers, competency of the TV teacher and the talk-back time slot available on Doordarshan. The questions raised by different viewing centres were subject centred, well structured, sharp, focussed and well moderated. The satellite and telephone networks did reasonably well as is evident through the reception of questions, wherein, fifty-eight percent of the questions raised by different viewing centres were clearly audible, 33% partially audible, and 9% were not at all audible. There is a need to explore how the viewing centres, namely, Roorkee and Jodhpur were considerably clearly audible than Madurai and Imphal. There was a variety of talk-back questions raised by the viewers focussing on different dimensions. Most of the questions were treated by the experts except those which were either not audible or where it was necessary to avoid. Some of the questions, such as, " Is it possible that immune system may not be developed inside the body?" raised by Roorkee in the programme "Battle for Life" and "What is reverse angle shot?" raised by Ahmedabad in the porgramme "Understanding Cinema" could be treated in the first shot. The anchor person played a meticulous role throughout. There was optimum coordination between the scripter and Delhi-based subject expert except in a few programmes like " Kiradu — An oasis in the desert". There was a need to orient the scripter and Delhi-based expert with respect to their relative roles. A large majority of the experts were very prompt, analytical, economic, precise, and intelligible while responding. It would have been excellent if the subject experts could be oriented on the skills of responding. The subject expertise and skills of responding and communication were spontaneously demonstrated in the talk-back session of "Leadership in Management".

There was an ample scope to improve upon the hardware component as is evident through the questions which were partially audible or not audible. The viewing centres could have rehearsed on how to control the speakers while putting questions so as to avoid feedback by the speakers.

All the responses of the experts to the talk-back questions were in the audio form. Perhaps the audio responses could be supplemented through the video stimuli. It could be achieved if the experts would have fore-sensed some of the questions on the basis of analysis of programmes. One of the excellent programmes, namely, "Soil Erosion" demanded more careful talk-back. In the program" Kiradu – An oasis in the Desert" the talk- back closure was too abrupt.

Possibilities of Operational System

While exploring the possibilities of the Countrywide Classroom Programme with Talk-Back as an operational system, it is essential to ensure the technical, economic, social, legal, instructional, and schedule feasibilities of the system. While moving from experimental to operational setting let us analyse the Countrywide Classroom Programme with Talk-Back system in terms of various constituents. What should be the structure of Studio Expert Team? Should it be a team to respond to the talk-back questions or a single expert left alone? Should a recorded programme be played back or should it be a live presentation? Is there a need to improve upon the hardware network? Should the viewers be oriented on how to communicate through a system, so that, the questions are clearly received? How to increase upon the frequency of talk-back questions? How to have the responses more analytic and precise? It has been found that the ratio of CWCR programme telecast and talk-back session in the ISRO-UGC Talk-Back experiment ranged from 1.2 : 1 to 2.5 : 1. Now the question is that what should be the ratio of CWCR telecast time duration and talk-back time. Should it be same for all the programmes or should it vary from programme to programme? If it varies then what should be the combination of programmes in a CWCR Programme capsule, and the programme telecast time and talk-back time ratio. Also, should there be an interlude between the CWCR programme telecast and talk-back session.

It seems that the talk-back sessions are quite effective, wherein, the viewers feel free to ask questions right on the justification of the name of the programme in relation to its purpose and contents, through substance to effects. The undergraduate students are more at ease when they have post-telecast inter-personal mediate communication on their problems with the subject experts. Television as an instructional medium finds itself more complete on communication while talking back.

The Countrywide Classroom Programme with talk-back is quite desirable and also it seems to be reasonably feasible. Should there be direct conversion from direct mode to talk-back mode all at once all over India? Would it be advisable to go in a phased manner? Along with the eight centres that participated in the ISRO-UGC Talk-Back Experiment which other centres can be included. What should be the criteria for their selection? What should be the time span to realise complete conversion from direct mode to talk-back mode? Should each CWCR programme be supplemented through the talk-back mode or some of the programmes can be self contained? How to decide which programmes are self contained and which require supplementation through talk-back? Future will demand more and more of mediated communication through different suitable workable modes. The ISRO-UGC CWCR Talk-Back Experiment, is a healthy beginning. It is prime time to workout thoroughly the structure of CWCR programme with talk-back as an operational system.

AL-AMEEN COLLEGE
Edathala, Aluva

Applications are invited for the posts of Lecturers in English, Commerce and Hindi. The posts are subject to sanction by the Mahatma Gandhi University, Kottayam, and in the open vacancy. Age and Qualifications based on Government Service and University regulations. Applications should reach the undersigned within 30 days of this notification in the prescribed form which can be had from the College Office on payment of Rs 50/- in person and Rs 60/- by post.

PRINCIPAL

Performance Appraisal of Teachers

R.S.Trivedi*

The UGC through its specially appointed task force has suggested a performance appraisal of teachers. The idea of self appraisal is worth considering. Looking to the content of the report it sounds more of a ritual than an appraisal that touches the experience, involvement or participation in the process of education in general and participating in the teaching-learning continuum and personal development of a teacher in particular. Self-awareness, identification with the work itself are more important and the existential aspects of an individual require a greater scope of expression in the self appraisal treatment.

The self appraisal is to be viewed in the context of a system organisation, and also in the context of programme execution. The routinised programme of higher education has become a part of administrative bureaucracy instead of an academic behaviour. The roles are statutory rather than creative. Various Boards of Studies and Academic Councils have been reduced to a replica of hierarchical bureaucracy. In the midst of such an organisational behaviour a teacher is to introspect and unfold himself.

To be true to his behaviour it is necessary that the teacher is required to look within, examine his own potential, view and review his contribution. During the process of introspection let him study his own goals, motives and even motivation. If this type of process is encouraged through the self appraisal technique, the teacher later on with its existential approach would be able to examine the here-and now-reality, the present needs and thus may take an initiative with its pragmatic point of view. Once he enters into the pragmatic area the rational behaviour immediately follows. This would provide a synthesis in the teachers' behaviour of existentialism, pragmatism and rationalism.

This approach will enable the teacher to overcome a few of the pathological aspects viz anxiety, academic insecurity, lack of motivation, lack of faith in change etc. The appraisal in fact, if constructed to touch the personality of a teacher and unfolding of it would help to automatically lead him to his professional ethics. This would later on result into the real interaction of the values, norms and science of the profession. The consequence of such an interaction would be the shaping of a professional code.

Professional code is not to be devised by an outsider. It has to be developed internally by teachers who are fully aware of their own professional conduct and who identify themselves as professionals. These professionals would certainly help the organisation, the system and academic behaviour since it would provide intellectual basis, community sanctions and professional authority. This type of professionalism evolving in the existing institutions of higher learning would also help strengthening the professional autonomy.

It is in this context that an attempt has been made here by way of providing another model of self appraisal for a college/university teacher.

Reactions and suggestions to this type of model accompanied by its preamble would help us as a teacher community to be more realistic in our professional approach.

My Teacher — Profile

Rating Scale *(Encircle the number on the right)*

0 1 2 3 4

1. I am fair and impartial in my behaviour with students.
2. I am fair and unbiased in dealing with my subject.
3. My teaching does create fatigue in the students' mind.
4. I am always encouraging my students.
5. I take responsibility seriously.
6. I am always ready to enrich myself in the subject I am teaching.
7. I always guide students in their academic progress.
8. I always look at problems

**Chairman, Higher Secondary Education Board, Gujarat State, Capital Project Building, Ellisbridge, Ahmedabad-386 006*

& Former Vice-Chancellor, Bhavnagar University.

rationally/emotionally.
9. I always analyse myself either in failure or success.
10. I like to do new things in my work.

II. My Professional Profile

Rating Scale *(Encircle the number on the right)*

0 1 2 3 4

A. 1. I am very clear of facts/factors pertinent to my professional career.
2. I have an ability to arrive at sound, logical opinions, conclusions on the basis of available data.
3. I am sure my colleagues can depend on my help, support and cooperation.
4. I understand my professional responsibility.
5. I maintain balance under stress due to pressure of work.
6. I have imagination and originality.
7. I have an ability to visualise and anticipate new problems, conceive new ideas/techniques.
8. I act independently.
I have self-confidence and take initiative for innovations.
9. I am clear in my self-expression, both oral and written.
10. I am eager to clear doubts.

N.B :- (If any one of the following is applicable to you please tick mark).

B. *As a Professional :- (Role)*

1. I am a member of the following academic Organisations/Committees/Boards.
Boards of Studies
Faculties
Academic Council
Postgraduate Boards
Academic Committees in the State or at the National level
I am a member of Sahitya Sabha or such organization

2. I have participated in the State/National level Programmes :

(1) Seminars
(2) Conferences
(3) Workshops
(4) In-service Programmes
(5) Continuing Education Programmes....etc.

3. I have to my credit number of articles and research papers (Please state the total number and important article or research paper with the name of the magazine, journal and publishing year.)
4. I have at present on hand the following project/research.
5. I am a recognized P.G. Teacher
6. I am guiding Ph.D students and have at present ___________ (Please mention the number of students)
7. I have to my credit ——Ph.Ds. (Please mention the number of students who have been awarded Ph.D. Degree)
8. I have to my credit publications (Please mention the number and one publication that in your opinion is the best)
9. Mention your specific contribution while participating in any Seminar/ Workshop/Conference. (Please mention the date and year of your participation)
10. State what encourages your professional equipment:-
(1) Participation in Seminars etc.
(2) Undertaking Project/Research
(3) Being a member of academic Committee/Organization
(4) Writing
(5) Classroom learning

C. *Given Dr. Jo Hari's analytical*

Self-diagram would you like to introspect yourself.

Self-esteem :

Public Self (1) Blind Self (2)
Hidden Self (3) Open Self (4)

1. Public Self : Every one knows that you are Mr. So and so and that you are ...etc.
2. Blind Self : Others know your defects but you are blind to it (would you like to see your blind self and improve?)
3. Hidden Self : Only you know it and others don't know it (would you like to see your hidden self and try to introspect so that others may help you in building up your personality?)
4. Open Self : This is the last stage to reach and a difficult one of course when none would doubt your personality. Your personality will have more dependability.

Let's all try to follow Dr. Jo Hari's design of self-analysis. Help our students too in seeing their personality.

Performance Review

Term-Wise Overall View of my Academic Performance

A. Classroom Teaching :

(1) Routine lecture-work
(2) Introduced new techniques of teaching--
Lecture-cum-questions
Lecture-cum-discussion etc.
(3) Tutorial Discussion:
The following patterns were adopted
(Please also write the topic and reasons for adopting particular mode of discussion)
Discussed:
1) Difficult Topics such as:
2) Field work
3) Term paper
4) Essay
5) Illustrative Questions
6) Illustrative Answers
7) Reading Material in the form of typical articles, book- reviews, introducing new authors etc.
(Please mention some of them)
4) Supporting experiences and evidences that provided encouragement or frustration.
5) Suggestions to improve next month programme and my teacher - behaviour related to it.
6) Participated in Discussions/Seminars Workshops etc.
7) Was invited to speak, address or discussion---
Place :
Date :
8) The author/book that impressed me more:
Title : ___________
Author : _________
Publication year ___________
Publisher ___________
9) (i) The journals I normally read
(ii) The following is the journal that I cannot afford to miss.
(iii) Articles that were useful to me in supplementing information on my subject/research problem etc.
10) Guided a few students and counselled them in :
(i) The subject :
(ii) extra curricular activities :
(iii) domestic and social problems :
(iv) easing their tensions :

B. Overall :

(A) I enjoyed my academic work
I record the following exciting (dramatic) events:-
(B) I was disappointed with the work
the disappointing event;
I have my work schedule as under:-
Week's Programme :
Hrs -
16 devote to classroom work
10 devote to personal/academic preparation
06 devote to project/research
02 devote to guidance to students
02 devote to personal Library work in college
02 devote to assessment and supervision
02 devote to co-curricular activities/participation in discussion or other academic programmes.

Total 40

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1. Name :
2. Qualification :
3. Experience/subject of specialisation :
4. Institution where working :

WOMEN'S EDUCATION

Dr. (Smt.) Chitra Naik, Member, Planning Commission, Government of India, delivered the Convocation Address at the 41st Annual Convocation of the SNDT Women's University, Bombay. She said, "Perceptions on women's role and women's education may be called two sides of the same coin. The educational commodity that we offer and its buyer are intrinsically related. If we can clearly perceive the buyer, the perception of the commodity becomes clear. The buyer, the learner is certainly the central point". Excerpts

It satisfies me to see that this Women's University which emerged from the determination of *Maharshi Dhondo Keshav Karve* to ensure justice and fair play for women, has not only completed more then 75 years of its life and celebrated its Platinum Jubilee but has over these years grown into a vibrant organisation for multifaceted education and training of women. In recent years, it has also won recognition as one of the leading research centres in the field of Women's Studies. Its campuses in Bombay and Pune are impressive in appearance and exhibit an aura of quality education. Apart from institutional provision of higher and continuing education, its outreach strives to cover those women whose circumstances do not permit adjustment to the time and space restriction of institutional programmes of education. The growing focus of the University on market related courses and promotion of entrepreneurship among women is also noteworthy.

By now, lakhs of young and middle-aged women have passed out of the portals of this University. One may assume that most of them, being inheritors of *Maharshi Karve's* struggle for the liberation of women, must now be fulfilling their roles as citizens, and workers with due capability and seriousness, notwithstanding their culturally ascribed roles as daughters, wives and mothers. As you are aware, it was 95 years ago that *Dhondo Keshav Karve*, a smallish, fragile, and poor man felt greatly troubled over the plight of Hindu women and took up cudgels in their behalf. The brochure published by this University on the occasion of its Platinum Jubilee says, (I quote) that Karve "who fought against the ill-treatment of widows in Hindu Society, set up at Hingne, near Pune, an Ashram where widows and other helpless women could take shelter. Aware that the inmates of this Ashram could not really survive unless they learnt to be self-sufficient, self-confident, and self-reliant and convinced that education was the only instrument for the cultivation of these qualities, *Karve* boldly launched a simple programme of schooling at the Ashram." (I unquote). Another important fact mentioned in the brochure is that it was in his Presidential Address to the National Social Reform Congress at Bombay in December, 1915, that he announced his decision to establish this Women's University. In this context, one must underscore Maharshi Karve's conviction that the education and liberation of women was an important component of overall social reform. A movement for socio-economic justice to women included their education, as education could be an instrument for changing women's status. This change in women's status was Karve's main goal.

When this pioneering step in education was taken by Maharshi Karve, the status of women in the Society around him was no better than that of bonded labour. Child-marriages, ill-treatment of widows, back-breaking domestic work, uncontrolled child-bearing, physical and mental torture; this was the lot of most women. This condition of women was so common that in practically all strata of society women were mentally prepared to meekly accept their miserable lot as a natural and god-ordained dispensation. This was the situation in the early part of 20th century when Karve adopted the Japanese model of women's education and established this University.

As you know, it is the cultural commitment and political organization of a society that determine the roles and functions of women. It is the politico-economic view of division of labour that arranges their life and their education accordingly. In the Japanese society of those days, the model of women's education was conservative. It stressed their roles as home-makers and service to men was laid down as their law of life. This service role of women was acceptable to the Indian society also. It considered the home and hearth, – the husband/children/in laws complex – as the feminine domain. The domestic sphere in general was allotted to women as the only legitimate space for their activities. In the secondary school courses of those days, 'Domestic Science' was an obligatory subject for girls. Even the primary textbooks for girls stressed the domestic sphere, with lessons on sewing, mending, cooking, cleaning and so on. Subsequently, Domestic Science acquired the less oppressive title of 'Home Science'. As time moved on, it was girls from the upper and middle classes that largely entered secondary and higher education and the Home Science courses reflected the life-styles of the fairly well-to-do. Those who remembered the original concern of the Women's University, its basic striving for reaching out to poor and destitute women, often felt disturbed by this trend. In a meeting of the Academic Council of Poona University, around the 60s, *Dr. Irawati Karve* sharply remarked that Home Science was a double misnomer because it neither had the precision and rationality of Science nor did it focus on women in the homes where help was most needed to make both ends meet. Therefore, perceptions on women's role and women's education may be called two sides of the same coin. The educational commodity that we offer and its buyer are intrinsically related. If we can clearly perceive the buyer, the perception of the commodity becomes clear. The buyer, the learner is certainly the central point.

We have now certainly come along way from the days when society used to relegate women entirely to the domestic sphere and was reluctant to give them access to the traditionally masculine socio-economic spheres and political participation. The Independence movement during which women fearlessly courted imprisonment and even faced lathi-charges and bullets and the progressive views of the founding Fathers of independent India, were the first stage of the liberation of Indian women in recent times. The second stage includes the provisions of our Constitution which is one of the best constitutions adopted by any democratic country, and many a legislation passed by Parliament to remove such uncivilized practices as child-marriages, dowry, unequal property rights, wage-discrimination and so on. Such legislation has given Indian women a fair degree of facility for participation in education, in civic and political life and economic activity of all types. Unfortunately, however, the benefits of these facilities are still not available to a large section of women in our country, because conventional ideas and resistances attempt to restrict women to a limited contribution to social good. As you know, illiteracy among Indian women is still very high. Girls are still kept away from school, whether unenrolled or dropout, and in some States, Girls Secondary Schools do not teach mathematics and science. Legislation has not stopped child-marriages entirely. Maternal mortality rates are high, dowry deaths are becoming common, rape cases are on the increase, equal wages for equal work are not yet freely given, women are not fully protected from hazardous occupations, and in the rural areas and urban slums, they still get beaten by drunken men. This is the present universe of the majority of women in India. The question is, how much interest a Women's University should take in such matters, how it should orient its faculty and students towards these problems of women who are outside the four walls of the University, and how it may concern itself with the problems of oppressed women who must be helped to have the freedom and dignity which the Constitution has guaranteed to them. Since the Women's University was born to relieve the distress of oppressed women and to make them self-confident and self-reliant, can this original mission become a major focus for the University, to be expressed through its programmes of teaching research and extension? There is a feeling that our politicians, administrators, professionals and the educated public in general, are not sufficiently sensitized towards the problems which prevent the majority of Indian women from enjoying the status guaranteed to them by our Constitution and from participating in the process of development. Is it possible for the Women's University to take up some of these challenges, to sensitize society about women's issues? To what extent and how can this be done? Is this at all possible?

Along with this question, there are questions which are related to higher education in general and women's higher education in particular. The first question is that of the learner's mobility from one course to another and taking up further education programmes from time to time, as and when required by situational demands. Technologies and socio-political configurations are changing faster than we had ever anticipated. This would call for new understanding and skill in all aspects of life. Can higher education respond to this challenge of constant renewal? Secondly, although both research and commonsense recognize that a person usually possesses several talents, the conventional, one-track education system does not help the multiple flowering of personality. A doctor can often be a potential novelist or dramatist and a scientist may excel in music. A chemical engineer may have excellent business talent. In view of this reality of multifaceted operation of human intelligence, Universities would have to consider shifts of students in a flexible way, from one course to another. We, therefore, need to prepare ourselves for this trend through flexible, non-formal, unconventional, open learning courses with appropriate institutional support. In the case of women, the faster we proceed in this direction, the more success we might have in their empowerment and their contribution to development.

The second question relates to efficiency and smartness. Given proper opportunity and appreciation, it is natural for any child — weather boy or girl — to be efficient and smart. If this kind of opportunity has been missed in childhood, it must be provided in adulthood to all kinds of students and workers. How to make the best use of available material resources, and of the available time which is a very important resource, has to be a part and parcel of everyone's training and education at all stages and particularly at the higher education stage because it is at this stage that the personality fully develops. This is what one would call efficiency. Another aspect of efficiency becomes manifest in 'smartness'. One might say that 'smartness' consists of five chief elements: the first element is cultivation of the habit of quickly grasping the meaning of a situation or conversation. The second element is fast thinking for suitably responding to a problem, to a statement, without delay. The third is articulation, i.e. expression of response in a well-considered manner. The fourth and fifth elements appear externally but exhibit the mind set of the person concerned. These are simplicity and austerity. In the Greek classical tradition, and in the ancient Indian tradition, the simple and austere is the most impressive, the most praiseworthy and the most valuable because it exhibits the wealth of the mind, the richness of the culture absorbed by the individual, as against the wealth of such external trappings as clothes and ornaments, pomp and show. For the educated women, it is these elements of smartness that would be the most useful ingredients of her overall empowerment. And one might say that these are appropriate for all individuals in a civilized society, whether men or women, regardless of the meagreness of the opulence of their possessions. At the higher education stage, multifaceted application of intelligence, efficiency and smartness need to be the major indicators of educational success.

Friends, these days everyone expects Universities to guard and enhance 'excellence'. I am also a member of that tribe. But to me, excellence means not only the depth of knowledge the students acquire, nor only the comprehensiveness of the research that the faculty conducts, but what the entire climate and organization of the University contribute to the flexibility, dynamism and social orientation of the learning process, what the faculty and alumni contribute to the uplift of the lowliest and the lost, and what they do not make the habits of efficiency and smartness, including austerity, deep-rooted in society so that education may universally become a ceaselessly liberating process. This is no doubt a tall order, but I leave it with you for whatever it is worth, at least to ponder upon.

Indira Gandhi National Open University

Schedule of Telecast for the period 1 February to 29 February
6.30 AM TO 7.00 AM

DATE/DAY	ACADEMIC PROG.	TITLE & COURSE
3.2.92 Monday	Bachelors Degree Programme (BDP)	Vaigyanik Paddhati
5.2.92 Wednesday	Cert. in Food & Nutrition (CFN)	Is your Food Safe to Eat
7.2.92 Friday	Management	National Planning Process
10.2.92 Monday	Bachelors Degree Programme (BDP)	Hindi Natak Aur Rangmanch-I
12.2.92 Wednesday	Diploma in Rural Development (RDD)	Garibi Aur Garibi Unmoolan-I
14.2.92 Friday	Management	Accounting in Decision Making
17.2.92 Monday	Bachelors Degree Programme (BDP)	Hindi Natak aur Rangmanch-II
19.2.92 Wednesday	Diploma in Rural Development(RDD)	Garibi aur Garibi Unmoolan-II
21.2.92 Friday	Management	Prof. Philip Kotler's Views on Marketing
24.2.92 Monday	Bachelors Degree Programme (BDP)	Descriptive Composition
26.2.92 Wednesday	Library & Infor. Science (BLS)	Dewey Decimal Classification-VI
28.2.92 Friday	Management	ITDC — A Case Study

Round Table on Women's Universities

Are women's colleges and universities still necessary today or do they merely promote a "social exclusivity" and "ghettoisation", further adding to segregation between the sexes?

Professors and teachers from round the world actively debated on this question while participating in the three-day International Round Table conference on "The Genesis, Growth, Current Status and Future of Women's Universities and Colleges".

Organised by the SNDT Women's University as part of their 75-year celebrations, the conference had participants from the USA, UK, Canada, Japan and the Philippines sharing information on the development of institutions of higher learning for women in their respective parts of the world and participating in a spirited debate on their relevance and role.

One of the central themes examined was the subject of collective learning through the students' own experiences which would call for an "environment supportive of and committed to women's concerns".

Emphasising this, Dr Socorro L. Reyes, executive director, Congressional Research and Training Service, Philippines, said that women's colleges must take a lead in the women's movement and not remain confined to research and theory.

Citing the case of St Scholastica College (SSC), one of the handful of single-sex institutions in her country, she said this Catholic institution had led the anti-Marcos struggle and its dean, a nun, was the chairperson of Gabriela, the umbrella organisation of 83 women's groups.

Many of the women's colleges, she said, were founded by religious orders. Barring four, the rest had turned co-educational owing to financial necessities or the need to liberalise. The four were divided in retaining their gender-based role differentiation or like SSC redefine themselves in the feminist direction.

The metamorphosis from the traditional to the progressive was effected in four phases which combined the liberal feminism of the West and the nationalist feminism of the Third World, Dr Reyes said.

The four stages were the home arts phase for good wives and mothers, career phase where despite equal access to education, vocational courses prevailed, social activism and militancy phase, when gender issues retreated temporarily for a joint struggle against political repression, and the feminist phase which occurred when successful political struggle was not accompanied by women's emancipation.

SSC in its last phase has set up a women's studies programme, a research institute, sensitivity seminars, a women's studies module for men continuing education and outreach programmes for grassroot activism.

In the USA, three of the "Seven Sisters" colleges have turned coeducational, disclosed Professor Carolyn Elliott, of the University of Vermont, USA. Overall, the number of single-sex institutions had dropped from 142 to 93. Colleges such as Wellesley, Smith and Bryn Mawr remained single-sex but developed cross-registration and exchange programmes with neighbouring male/co-educational institutions. Bennett and Spelman, two colleges for black women had done the same while 66 Catholic institutions turned co-ed.

Most women's colleges in the USA at their foundings were characterised by perceptions of a woman's special moral qualities, Dr Elliott said. She also noted that following the introduction of vocational courses and then equal curriculum with males, studies showed that women's colleges alumnae were two times more frequently cited for career achievements than those in co-educational institutions. The overall sense of educational mission permeating the institutions was responsible for this success, she said.

A more conducive social climate in '60s saw an upsurge in female enrolment in co-educational colleges. However, she said, women's experiences differed from their male classmates. The former excelled academically but were less likely to enter scientific fields, participate in discussions, become leaders or receive support.

Dr Elliott said that scholars were now hotly debating whether women needed to be educated differently for they thought and used language differently, reacted to moral questions differently, etc. Surviving women's colleges lagged behind in the suffrage movement and change in curriculum but led in the development of continuing education for non-traditional students such as drop-outs, mature women, divorcees, retired women, minorities, etc.

She concluded that women's colleges had also become more articulate about their distinctiveness. A study showed that women in non-traditional subjects were more likely to receive their degrees in a women's college than at co-educational institutions. This pattern of achievement was due to the college environment and not socio-economic factors.

Students at women's colleges were likely to reject conventional views about women's work and aspire for traditional male fields. Moreover, the scholarship and advocacy of research centres had placed new issues relating to women for public policy, it was learnt.

"No proposals for women's universities or even for institutes for women within the co-educational university will succeed, unless they address the intersection of race, class and ethnicity," averred Dr Jo-Anne Fiske, Department of Sociology, Saint Mary's University, Canada.

"A women's university that can offer a truly distinct educational experience will need to 'think' differently than a liberal co-educational institution catering to middle upper-class students. It must constitute a distinct women-centred cognitive community in which women's commonalities and differences are embraced in an emancipatory discourse," she said.

The only women's university in Canada, Mount Saint Vincent University, became co-educational in the '70s when there was a need for individual equality, and women's universities was perceived as inferior. Male students who entered Mount Saint Vincent comprised 20 percent of the student intake but were key players in political students' bodies. Women faculty members are under-ranked and underpaid and the relevance of this institution is waning, she stated.

Dr. Livi Rodrigues, Principal, Sophia College concurred with Prof. Fiske's assessment and said that women's colleges were important in their own right especially for those girls who were not naturally assertive, but just one in a group. Such girls, were especially inculcated with self-confidence by women's institutions, she felt.

Dr. Jayalakshmi Indiresan, Senior Fellow, Higher Education, National Institute of Educational Planning and Administration in her paper emphasised the fact that in India single-sex colleges were needed due to socio-cultural and academic reasons.

Women's colleges provided many girls in the country with access to higher education which would have been denied to them due to parental reservations, she said.

Her paper pointed out that despite the growth in women's colleges by 43 percent in the span of a decade – from 1979 to 1989, women's universities and colleges in India did little to dispel stereotype images of women as good wives and mothers, and often established isolated identities for them.

The two participants from Japan, Dr. Takako Aoki and Dr. Yogo Kojima, President and Professor respectively, at Japan's Women's University, however, mentioned the fact that most of the 91 women's universities in Japan had a very traditional approach and things didn't seem very likely to change in the near future.

Top Priority to Restructuring Courses

The University Grants Commission Chairman, Prof. G. Ram Reddy, stated that the UGC was according top priority for restructuring courses at the college level during the Eighth Plan period. Addressing principals of Osmania University-affiliated colleges in Hyderabad recently the UGC Chairman said that adequate allocation would be made in the plan outlay for the purpose of restructuring the courses. He said that it was high time that the courses were made more practical and result-oriented.

Prof. Ram Reddy underscored the need for linking the education system to national programmes. For instance, he pointed out that relevant issues such as population explosion and environmental degradation were being totally ignored by academicians.

He warned that the financial position of the UGC would not be that rosy during the Eighth Plan in view of the economic situation prevailing in the country. "However, we will strive to mobilise enough money to sustain ourselves. We will make tentative allocations soon and hopefully stand by it",he assured.

Prof. Ram Reddy regretted that many of the colleges were not making the optimum use of the grants provided to them by the UGC. It is imperative that the colleges use the money for the programmes and submit the utilisation certificates to the UGC. He said that so far utilisation certificates for about Rs. 500 crores were not submitted resulting in queries from the Public Accounts Committee. He assured that the UGC would be very flexible in financial matters. However, it was left to the colleges to identify programmes and seek grants from the commission.

Referring to the issue of autonomous colleges, he said, a committee had been constituted some time ago to go into the problems of these colleges. The committee had submitted its report and the UGC was planning to sort out the problems during the next six months. He said that of the 500 colleges that were to be made autonomous during the Seventh Plan period, only 105 colleges were granted autonomy during the period.

IFLA to Meet in Delhi

The International Federation of Library Associations (IFLA), for the first time since its inception, will be holding its 58th annual conference in Delhi, from August 30 to September 5, 1992. About 3,000 delegates from 132 countries are expected to participate in the conference.

The chairman of the Indian Organising Committee, Mr. Girja Kumar, said in New Delhi recently that it was the first time that a conference of such gigantic dimensions involving professionals from the library and information sector from all over the world was being held in the country.

He stated that the theme of the conference would deal with the library and information policy and perspective and include such topics as the conceptual framework for national library and information policies, organisation and design of national library systems for effective operations and the differences between the regions around the world, the role of public, academic and special libraries in providing information needs.

He informed that users and their needs would also be discussed and stated that this aspect would cover promotion of literacy, services to the multilingual populations, minorities and disadvantaged people, role of new technologies in supporting information and staff training and development.

Mr. Kumar said that since 1992 was the birth centenary of Dr S.R. Ranganathan, the pioneer of Indian librarians, a proposal had been made to organise an exhibition on the "100 Years of Librarianship". Dr Ranganathan would also be the focus of the plenary session of the conference, he added.

He said that since Dr Ranganathan had played a significant role in the development of rural libraries, the association was expecting to launch a project to further this aspect of his work. An exhibition of books and library equipment and the information technology would also be organised at the venue of the conference, Mr Kumar said.

Mrs. S.C. Biswas, Secretary General of the Committee, said that the conference would give Indian librarians a chance to keep pace with the latest advances made in Library Science.

India had fallen behind the rest of the world in the field during the past 20 years, although earlier, till the 1960s it had made significant contributions to the rest of the world, he added.

The IFLA Project Coordinator, Mr Winston Robert, stated that IFLA which was a non-government organisation, funded through subscriptions and donations could be useful in promoting literacy by issuing guidelines and instructional manuals to librarians on how to deal with the literacy problem, by instructing them to supplement their material with audio-visual technology and the like.

Mr Robert stated that the biggest headache faced by librarians today was to conserve books. He said it was increasingly realised that acid-paper (made of wood pulp) which came into use in the mid 19th century with the increase in demand for books, was prone to decay.

National Science Centre

The Prime Minister, Mr P.V. Narasimha Rao, recently dedicated to the nation the Rs. 15-crore National Science Centre located in Delhi and named it after Mr Rajiv Gandhi.

Speaking on the occasion the Prime Minister said Mr Gandhi inspired scientific activities and the concept of this museum which has a unique feature of interactive nature. This was more than a museum as it disseminated knowledge and inspiration to the visitors, he said.

The Prime Minister said there should be a scientific approach in handling problems and applying scientific knowledge and technologies in the changing times.

Efforts should be made to study the remarkable contributions of ancient India to science and technology instead of just discarding the inventions made at that time. If these inventions were not proved wrong these should be considered better than the imported technology, he said. He made it clear that he was not against any imported technologies or knowledge as such things have no national barriers or boundaries.

Discarding ancient inventions and knowledge, and blindly imitating technologies were equally bad, the Prime Minister said. The real effort should be to understand science properly and apply it to modern times, he said.

Recalling the contribution of Mrs Indira Gandhi in creating awareness on the need to preserve the environment, the Prime Minister said there should be efforts to foresee a long future of mankind instead of depleting the earth's resources for short-term benefits.

The Human Resource Development Minister, Mr Arjun Singh, said in his students days, during the British Raj, they were given the impression that all scientific achievements came from the West. The National Science Centre would provide an opportunity to get face-to-face knowledge about India's creditable achievements in science and technology.

Socio-Psychological Aspects of Aggressiveness

Aggressiveness among adolescents has an impact on their rigidity, risk-taking tendency, extroversion and frustration, with little difference in their intelligence and academic achievement, according to a study conducted by Dr M.P. Gupta and Dr G.C. Rai of the Psychology Department of M. L. Sukhadia University in Udaipur.

The study, which was presented to the Indian Science Congress held recently at the M.S. University of Baroda, was done on the socio-psychological aspects of aggressiveness among urban and rural school students between the age of 14 and 17 coming from the lower and upper income groups. It revealed that the concept formation ability of the less aggressive was significantly more than that of the more aggressive groups.

The study revealed that psychoticism, extroversion, neuroticism, risk-taking tendency, rigidity and frustration among the more aggressive adolescents were significantly greater than the average and less aggressive groups. The study found that there was hardly any difference in the degree of depression between the groups.

Education for Survival

The Central Institute of Higher Tibetan Studies (Deemed University), Sarnath, Varanasi, proposes to organise a National Seminar on Education for the Survival of Living Systems : Identification and Integration of Educational Inputs of Peace and Non-Vilence in the Teaching-Learning Environment on February 14-15, 1992. The Seminar will be inaugurated by His Holiness The Dalai Lama (Nobel Laureate) and the keynote address will be delivered by Dr. Karan Singh.

The Seminar will focus on (i) Human Survival and Renewal of Life- Systems; (ii) The Environmental Dimensions of Warfare; (iii) The Point of View: Identification and Integration of input of Peace and Non-Violence in the Teaching-Learning Environment; and (iv) Education Transitivity to a Global Society.

Distinguished academicians Vice-Chancellors, Journalist, scientists and technologists, representatives of UNESCO, UNICEF, UNEP, WHO and other international organisations are expected to participate in the seminar. Details regarding participation can be had from Prof. S Rinpoche, Director, Central Institute of Higher Tibetan Studies (Deemed University), Sarnath, Varanasi-221007.

Lokabhasa Pracara Samitih

With a view to popularise and propagate Sanskrit and its vital messages, the Assam Branch of the all India organisation named "Lokabhasa Pracara Samitih" was recently inaugurated in he Gauhati University by Shri Lok Nath Mishra, Governor of Assam and Chancellor of Gauhati University. In his address Shri Mishra said that Sanskrit language was the source of all Indian languages which gave birth to the stream of Indian culture and society. "Elaborate study and research of Sanskrit has helped us in improving the present culture" he added and appealed to the young generation to work hard for the development and advancement of Sanskrit learning.

Dr. Nirmal Kumar Choudhury, Vice-Chancellor of Gauhati University, expressing great satisfaction at the opening of the Lokabhasa Pracara Samitih advised the members to prepare creative plans and programmes of this ancient language.

Dr. Rajendra Nath Sharma, President of the Assam Branch explained the aims and objectives of the Samitih. He also narrated the linguistic characteristics and historical background of Sanskrit which deserved the name Lokabhasa in place of Deva Bhasa.

Young Scientists Awards 1992

Twenty young scientists received the Indian Science Congress Association awards for 1992 from the scientific adviser to Prime Minister, Dr Vasanth Gowariker, at the 79th session of the ISCA concluded recently in Baroda.

The recipients and their disciplines are: Ms Anju Gupta (Lucknow) and Ms Neeru Singhal (New Delhi) for mathematics, Mr Shantanu Mukherjee (Calcutta) for statistics, Dr Skita Hingorani (Jabalpur) and Dr A. Verma (Patna) for chemistry, Dr Utpal Bhadj (Calcutta) for chemistry, Mr B.S. Murthy and Mrs Meenakshi Srivastava (Lucknow) for materials science, Mr Mukund Sharma (Lucknow) for earth science; Ms Uma Devi (Bardoa) for botany, Dr Renu Tripathi (Calcutta) for zoology, entomology and fisheries.

Ms Puneet Gandhi (Bhopal) and Mr Bibhas Kar (Ahmedabad) for medical and veterinary sciences.

Mr Arun Kumar Dhar (New Delhi) for agricultural sciences, Mr Shamta Mahapatra (Bhubaneswar) for psychology and educational sciences, Dr Trilok Nath Singh (Varanasi) and Mr Darshan Choksi (Vallabh Vidyanagar) for engineering sciences, and Mr Deba Prasad Mandal and Mr Ashish Ghosh (Calcutta) shared the computer sciences award.

Workshop on Photoelectric Photometry

A mini-workshop on photoelectric photometry was recently held in the Department of Physics, Gauhati University. Besides supporting the workshop, the Inter University Centre for Astronomy & Astrophysics (IUCAA), Pune, offered its expertise (resource personnel) and material (Celestron C 8 telescope and SSP-3 photometer were brought from Pune for observational purpose) for the workshop. The workshop was inaugurated by Dr. N.K. Choudhury, Vice-Chancellor, Gauhati University.

The workshop discussed observations of sun, moon and other objects of solar system. Astronomical instrumentation was also discussed at length and some projects like asteroid occultation, occultation by moon, variable star studies were identified. Some experiments at the M.Sc. level were mooted. Some data from a specific star alpha-Eridani were obtained and how these observational data can be reduced were discussed. Some important topics in Astrophysics were also taken up for discussion at the M.Sc. level for the benefit of students. The telescope the University has and the photometer have been tested. This workshop opens the way for observational astronomy in the University and the whole of the North-Eastern region.

The workshop was largely attended by the students and the faculty alike.

National Youth Day

To mark the birth anniversary of Swami Vivekananda, the National Youth Day was observed on January 12, 1992. On this occasion a fascinating cultural show was presented by the selected university cultural continents and other youth agencies under the auspices of the Association of Indian Universities. Rani Durgavati University, Jabalpur and Gauhati University presented folk dances while Rabindra Bharati, Calcutta and University of Bombay, enthralled the audience with their spell-binding performances.

Hon'ble Minister for Human Resource Development, Shri Arjun Singh presented the Youth awards. Miss Mamata Banerjee, Minister of State for Youth Affairs & Sports, welcomed the Youth. She appreciated the role of youth particularly in the field of cultural and sports activities.

Lobster Research at Tuticorin

The spiny lobster and rock lobster research programme at the Fisheries College and Research Institute, Tuticorin, is the only majo research programme on lobster i India. There has been some succes in the breeding of rock lobste *Panulirus ornatus* at this Institute Mature *P. ornatus* (1.5 to 2.0 kg collected from the Gulf of Mannar Tuticorin were observed to mate and breed in captivity unde laboratory conditions. The first stage phyllosoma larvae of *P. ornatus* and *P. versicolor* were searanched during October '91 The macrocrustacean research team of this institute has identified a new spieces of sand lobster named as *Scyllarus Tutiensis* from Tuticorin waters.

Buddha & Mahavira on Education

The article Buddha and Mahavira on Education published in 25th November 1991 issue of *University News* under the authorship of Prof. Ramlal Parikh was prepared in collaboration with Prof. Madhu Sen of Buddhist Studies in the Gujarat Vidyapith.

We Congratulate....

1. **Prof. Rathindra Narayan Basu who has taken over as Vice-Chancellor of the Calcutta University, Calcutta.**
2. **Prof. S.K. Khanna, Vice-Chairman, UGC who has been unanimously elected a member of the Academy of Engineering, Moscow.**
3. **Prof. R.J. Garde, Pro-Vice-Chancellor, Indira Gandhi National Open University (IGNOU) who has been selected by the Central Board of Irrigation and Power for an award for his research contributions in the field of water resources.**

News from Agricultural Universities

Horticulture Research in 8th Plan

Horticulture and horticultural research will receive a big boost during the Eight Five-Year Plan, revealed Dr.K L.Chadha, Deputy Director-General (Horticulture),Indian Council of Agricultural Research (ICAR) while speaking at a group workers meeting of the All-India Co-ordinated Research Project(AICRP) on vegetables at the Central Plant Protection Training Institute Auditorium, Rajendranagar recently. He emphasised that stress would be laid on the development of improved varieties which are resistant to biotic and abiotic stress, technologies for crop diversification in the semi-arid and arid rainfed areas, of rapid methods of plant propagation and seed multiplication of improved varieties , improvement in post-harvest handling, storage and transport system and intensification of work on oilpalm in the tropics and olives in the temperate region.

There was also a proposal to establish a South-East Asian Vegetable Production Centre in India and to have a closer co-ordination with SAARC countries in research and production of improved vegetable varieties.

The present requirement of vegetables is around 102 million tonnes, but the production is only 48.6 million tonnes. The total area under vegetable crop worked out to only two per cent in the country, which was very low, he remarked.

Dr. Chadha said 119 varieties covering 17 vegetables were identified for different agro-climatic regions of the country.

Dr. M.V. Rao, Vice-Chancellor, Andhra Pradesh Agricultural University (APAU), who inaugurated the four-day meeting, said the State topped in the production of rice, vegetable crops such as chillies, turmeric, tobacco, poultry and fish.

Plans were now afoot to grow oilpalm in the State, and about 2.5 lakh hectares was identified in Srikakulum district which had a suitable climate. He requested the ICAR to establish the proposed National Centre for Oilpalm in the State.

Welcoming the gathering, Dr. I.V.Subba Rao, Director of Research, APAU, said the State needed a full-fledged laboratory for carrying out quality analysis. Besides, a greenhouse for screening germplasm against pest and diseases and carrying out resistance breeding was immediately needed. A temperature and humidity control-room was also required for preserving the valuable vegetable germplasm.

Dr. Subba Rao said though Andhra Pradesh, with 4.5 lakh hectares and 14.5 lakh tonnes of vegetable production, ranked third in the country, the per hectare yield was less than eight tonnes owing to cultivation of traditional varities under sub-optimal conditions, natural calamities and lack of awareness of the growers about the available information on the improved package of practices.

News from UGC

Countrywide Classroom Programme

Between 1st February to 7th February 1992 the following schedule of telecast on higher education through INSAT-1D under the auspices of the University Grants Commission will be observed. The programme is presented in two sets of one hour duration each every day from 1.00 p.m. to 2.00 p.m. and 4.00 p.m. to 5.00 p.m. The programme is available on the TV Network throughout the country.

Ist Transmission

1.00 p.m. to 2.00 p.m.

1.2.92

"Science of Musical Instruments-I"

"Into a New Century"

"Week Ahead"

2.2.92

No Telecast

3.2.92

"Remote Sensing-XXII: N N R M S"

"Management-V: Organisation Aids"

"Black Art"

4.2.92

"Organic Reaction Mechanisms-I: An Introduction"

"Andrology-Science of Male Reproductive Disorders"

5.2.92

"Know them By Dialogue: A Talk with Claude Garrigues-I"

"The Great Encounter-I: Victoria Olampo and India"

"Biotic Interaction"

6.2.92

"Electrical Circuits-VIII"

"Evolution of the Himalaya"

"Indian Poetics-II: Concepts of Sahriday"

7.2.92

"Fundamentals of Mechanics-I"

"Indian Immigrants in U.S.A."

"Fathomless Folklore"

IInd Transmission

4.00 p.m. to 5.00 p.m.

1.2.92

"Library and Automation"

"Scenic America: The Denali Wilderness"

"Weekly Programme"

2.2.92

No Telecast

3.2.92

"Remote Sensing-XVIII: Ground Water"

"Management-I: What is Management"

"Your Vision"

4.2.92

"Ways of Thinking-SEP-VI: Making Space"

"Instrumental Techniques"

"Ecography"

5.2.92

"GIST-Technology for People"

"Meet an Architect"

"Alcohol from Cassava"

6.2.92

"Basics of Reinforced Concrete"

"Visual Anthropology and Approach"

"Keki Dawuwalla and His Poetry"

7.2.92

"Understanding the Stars"

"Electroal Politics-An Overview"

"Defence Mechanism"

News from Abroad

North-South Network for Medical Research

Within the framework of its cooperation policy with developing countries, in 1992, the French National Institute for Health and Medical Research (INSERM) will support 5 international networks for medical or sanitary research.

The aim of these networks is to bring together, on a research project jointly formulated by various participants, two (or more) French laboratories of which one must be attached to INSERM, and two (or more) laboratories from countries in the South zone, these laboratories being either in the same country or preferably in different ones.

Each network will receive financial aid upto sum of 400,000 FF excluding tax (approximately Rs 18,00,000) for a period of two years. This aid will be accorded for (i) the equipment and functioning of foreign laboratories forming part of the network; and (ii) functioning of the network [to a maximum of 100,000 FF (approximately Rs 4,50,000) for travel and stay of French and foreign collaborators].

This programme is applicable to any area of medical and health research. Special attention, however, will be accorded to networks dealing with the following areas :

(i) microbial, viral and parasitical ailments,

(ii) AIDS (acquired Imuno-deficiency syndrome),

(iii) genetic disorders,

(iv) diabetics, arterial hypertension,

(v) perinatal period,

(vi) nutrition and malnutrition,

(vii) public health, and

(viii) social perception of health problems.

Each dossier will be prepared under the direction of the French coordinator, who alone will be responsible for the scientific project's formulation and forwarding of the proposal to INSERM's concerned branch.

The networks will be established for a period of two years, with the possibility of a single renewal (requests for renewal will be examined in competition with new project proposals).

Application forms can be obtained by writing to: Department des Relations Internationales, INSERM (French National Institute for Health & Medical Research - Institut National de la Sante et de la Recherche Medicale), 101, rue de Tolbiac, 75654 Paris Cedex 13 FRANCE

The forms should be returned to the INSERM office latest by 15th February 1992.

AIU Library

Established in 1965, the AIU Library has acquired over the years a valuable collection of books and documents on higher education. Among the topics prominently represented are educational sociology, educational planning, educational administration, teaching & teachers' training, examinations, economics of education and country studies. Developing fields of adult education, continuing education and distance education, and educational technology are also well stocked.

The library is particularly strong in its collection of reports whether they are on the setting up of different universities or on the state of higher education. Files of annual reports of different universities are also maintained. Readers are kept informed of the latest acquisitions through our column 'Additions to the AIU Library'.

The library receives about a 100 periodical titles on higher education. All these are indexed regularly and a select list appears every month as 'Current Documentation in Education'. Similarly our column 'Education News Index' reports editorials and articles on higher education published in over 20 newspapers that are received in the library from all over the country.

The library is steadily building up a collection of audio and video cassettes on matters educational and maintains a well appointed Audio-Visual Room equipped with a double deck audio cassette recorder, a VCR and a colour TV monitor, and an overhead projector.

Doctoral Degrees awarded during the preceding month are reported as 'Theses of the Month', while registrations made for such degrees are flashed as 'Research in Progress'. Bibliographies are also compiled and supplied on demand.

Research Scholars and students of education are welcome to use these resources. The Library is open from 9.00 a.m. to 5.30 p.m. Monday through Friday. Access can also be had through inter library loan for which requisition must be made through your Librarian.

RESEARCH IN PROGRESS

A list of Research Scholars registered for Doctoral Degrees in Indian Universities

SOCIAL SCIENCES

Library & Information Science

1. Jain, Subhashchandra. **Madhya Pradesh ke raksha sansthanon mein granthalaya sevayen tatha unmein Desidoc ka yogdan.** Vikram. Dr G D Bhargava,Prof (Retd), Department of Library and Information Science, Vikram University, Ujjain.

2. Sivaraman, V. **Industrial and Technological Information Centre (ITIC) for the small scale sector in Kerala State.** Kerala. Dr R Johnson, Technical Officer, Office of the Director, Central Marine Fisheries Research Institute, P B No.2704, Ernakulam, Cochin.

Psychology

1. Kataria, Alka. **Delinquency proneness as related to trigun and adjustment.** Panjab. Prof (Mrs) Vidhu Mohan, Department of Psychology, Panjab University, Chandigarh.

2. Majithia, Anuradha. **A study of assertiveness as related to locus of control, need for social approval, extraversion and neuroticism in working and non-working women.** Panjab. Prof (Mrs) Vidhu Mohan, Department of Psychology, Panjab University, Chandigarh.

Sociology

1. Pratima. **A sociological study of police women in Himachal Pradesh.** HP. Dr S K Sharma, Department of Sociology, Himachal Pradesh University, Shimla.

2. Rana, Usha P. **Emerging patterns of agraian relations in Himachal Pradesh.** HP. Dr O P Monga, Department of Sociology, Himachal Pradesh University, Shimla.

3. Sharma, Roshan Lal. **Social development, social mobility and fertility behaviour: A study of a rural area in Himachal Pradesh.** HP. Dr S K Sharma, Department of Sociology, Himachal Pradesh University, Shimla.

Political Science

1. Singh, Amarendra Pratap. **Balgangadhar Tilak ka rajnaitik chintan.** BHU. Dr Chandrakala Padia, Department of Political Science, Banaras Hindu University, Varanasi.

Economics

1. Jeromi, P D. **Economic aspects of agro-based industries in Kerala.** Kerala. Dr C Radhakrishnan, Reader, Department of Economics, University of Kerala, Kariavattom.

Public Administration

1. Banta, Pawan Kumar. **Decision-making in crisis-management: A study of Health Department of Himachal Pradesh.** HP. Dr Padam Nabh Gautam, Department of Public Administration, Himachal Pradesh University, Shimla.

2. Bhalwal, Rajni. **A study in the dynamics of Pachayati Raj institutions in Himachal Pradesh.** HP. Dr R D Sharma, Depart-

ment of Public Administration, Himachal Pradesh University, Shimla.

3. Chatti, Laiq Ram. **Administration of backward areas in Himachal Pradesh with special reference to Shimla and Sirmour Districts.** HP. Dr R D Sharma, Department of Public Administration, Himachal Pradesh University, Shimla.

4. Gupta, Punam. **District Administration in Himachal Pradesh with special reference to Solan and Sirmour.** HP. Dr Shiv Raj Singh, Department of Public Administration, Himachal Pradesh University, Shimla.

5. Naresh Kumar. **Deputy Commissioner in Himachal Pradesh: A study in role analysis in development administration.** HP. Dr R D Sharma, Department of Public Administration, Himachal Pradesh University, Shimla.

6. Om Pal. **Forest administration in Himachal Pradesh with reference to peopl's participation.** HP. Dr Shiv Raj Singh, Department of Public Administration, Himachal Pradesh University, Shimla.

7. Thakur, Dinesh Kumar. **Civil service training in Himachal Pradesh.** HP. Dr Shiv Raj Singh, Department of Public Administration, Himachal Pradesh University, Shimla.

8. Verma, Laiq Ram. **Human resource development in industrial sector in India, with special reference to Bhel and Escorts.** HP. Dr R D Sharma, Department of Public Administration, Himachal Pradesh University, Shimla.

Education

1. Gautam, Shashi Bala. **Development of creative thinking and leadership among Navodaya Vidyalaya students.** HP. Dr K K Gosain, Department of Education, Himachal Pradesh University, Shimla.

2. Nair, Chitra. **Development of certain models for creating awareness of environmental protection among secondary school children of Kerala.** Kerala. Dr Mercy Abraham, Department of Education, University of Kerala, Thiruvananthapuram.

3. Singh, Rabindra Nath. **Physiological profiles of jumpers in India.** BHU. Dr Rambali Singh, Department of Physical Education, Banaras Hindu University, Varanasi.

4. Veena Kumari. **Effect of Keller's personalised system of instruction on Creativity, study habits and level of aspiration of school going rural students.** HP. Dr Lokesh Kaul, Department of Education, Himachal Pradesh University, Shimla.

Commerce

1. Dube, Satish. **Madhya Pradesh ke resham udyog ka arthik adhyayan: Narsinghpur Jile ke vishesh sandarbh mein.** H S Gour. Dr B K Jain.

2. Jain, Kailash Chandra. **Krishi vipanan mein niyantrit bazaron kee bhumika: Sagar Sambhag ke sandarbh mein.** H S Gour. Dr L C Choudhary, Department of Commerce, Govt Arts and Commerce College, Sagar.

3. Jayaraj Kumar, S. **A study of consumer behaviour in relation to the marketing of consumer durables in Kerala.** Kerala. Dr K P Muraleedharan, Lecturer, Department of Commerce, University of Kerala, Thiruvananthapuram.

4. Nalini, J. **Impact of mutual fund scheme on the deposit mobilization of commercial banks in Kerala.** Kerala. Dr K Sasikumar, Lecturer, Department of Commerce, University of Kerala, Thiruvananthapuram.

5. Shrestha, Shakti Prasad. **Dynamics of cottage and small scale industries financing in Nepal.** BHU. Dr K M Pandey, Department of Commerce, Banaras Hindu University, Varanasi.

6. Sudhir, J S. **Industrial relations in small scale industries in Kerala.** Kerala. Dr K P Muraleedharan, Lecturer, Department of Commerce, University of Kerala, Thiruvananthapuram.

7. Violat Rajam, R V. **Impact of Handicrafts Development Corporation Kerala Ltd. on the socio economic development of artisans.** Kerala. Dr C N Purushothaman Nair, Prof, Department of Commerce, University of Kerala, Thiruvananthapuram.

8. Wilson, K. **Job satisfaction.** Kerala. Dr K Sasikumar, Lecturer, Department of Commerce, University of Kerala, Thiruvananthapuram.

Home Science

1. Arora, Renu. **Consumers awareness utilization.......organisations located in Delhi.** Delhi. Dr (Mrs) S Malhan, Director, Institute of Home Economics, J Block, South Extension, Part-I, New Delhi.

2. Ranjita Jit. **Impact of the urban slums on the development of slum children.** Delhi. Dr J Datta, Lady Irwin College, New Delhi.

HUMANITIES

Philosophy

1. Singh, Brijesh Kumar. **Paramarth Satya: Baudha aur Vedanta ke vishesh sandarbha mein.** BHU. Dr Urmila Chaturvedi, Department of Philosophy, Banaras Hindu University, Varanasi.

Fine Arts

Drawing & Painting

1. Dubey, Geeta. **Later Mughal paintings, 18th Century A.D.** BHU. Dr Dr T K Biswas, Department of History of Arts, Banaras Hindu University, Varanasi.

Language & Literature

English

1. Sidhu, Harsimran Preet. **Women characters in Saul Bellow: A critical study of his later novels.** Panjab. Dr M S Aneja, Reader, Panjab University Evening College, Chandigarh.

Sanskrit

1. Chaturvedi, Govind. **Mahakavi Kshemendra evam Baudha Katha: Ek parisheelan.** BHU. Dr K C Jain, Department of Pali, Banaras Hindu University, Varanasi and Dr R P Dwivedi, Department of Sanskrit, Banaras Hindu University, Varanasi.

2. Kaushik, Durga Sharan Chand. **Mahabarat mein smriti samagri ka adhyayan.** BHU. Prof Lallanji Gopal, Department of Ancient Indian History, Culture and Archaeology, Banaras Hindu University, Varanasi and Dr Saraswati Singh, Department of Sanskrit, Banaras Hindu University, Varanasi.

3. Mani, Paras. **Bhartiya vedic shad-darshan mein chit ka swaroop: Ek adhyayan.** Panjab. Prof Ram Murti Sharma, Department of Sanskrit, Panjab University, Chandigarh.

4. Mishra, Rajesh Kumar. **Jonarajakrit Rajatarangini: Ek sameekshatmak adhyayan.** BHU. Dr M S Shukla, Department of Pali, Banaras Hindu University, Varanasi and Dr R S Chaturvedi, Department of Sanskrit, Banaras Hindu University, Varanasi.

5. Mishra, Ram Pratap. **Adhyatma Ramayan ka darshnik adhyayan.** BHU. Dr K E Dharnidharan, Department of Vedic Darshan, Banaras Hindu University, Varanasi and Dr R S Chaturvedi, Department of Vedic Darshan, Banaras Hindu University, Varanasi.

6. Pandey, Kanhaiya. **Niruktashastrey Vyakaranaprakriyayah sameeksha.** BHU. Dr Vyas Mishra, Department of Veda, Banaras Hindu University, Varanasi.

7. Sunita. **Brihattrai mein prakriti varan: Ek adhyayan.** Panjab. Dr Anirudh Joshi, Department of Sanskrit, Panjab University, Chandigarh.

8. Tiwari, Alka. **Samvatam :Alankarik adhyayan.** BHU. Dr Shivdatt Sharma Chaturvedi, Department of Sahitya, Banaras Hindu University, Varanasi.

9. Tiwari, Manju Lata. **Shri Raghunath Varma dwara rachit kavyon ka alankarik adhyayan.** BHU. Dr Chader Moli Dwivedi, Department of Sahitya, Banaras Hindu University, Varanasi.

10. Tulika Ratna. **Atharvavedgat Rajkram kee sameeksha.** BHU. Dr K C Dube, Deartment of Veda, Banaras Hindu University, Varanasi and Dr Usha Sharma, Department of Sanskrit, Banaras Hindu University, Varanasi.

11. Vinod Kumar. **Vedgat auoshdhi vanspatiyon kee sameeksha.** BHU. Dr H R Sharma, Department of Veda, Banaras Hindu University, Varanasi and Dr L K Mishra, Department of Sanskrit, Banaras Hindu University, Varanasi.

12. Yogita. **Ashtavakra-Geeta ek alochanatmak adhyayan.** Panjab. Dr Vikram, Department of Sanskrit, Panjab University, Chandigarh.

Punjabi

1. Baljinder Kaur. **Panjabi novel vich istri dee sthiti: Ik adhyayan; Das novelkaran de das novelan de adhar te.** Panjab. Dr Jagtar Singh, Lecturer, Govt College, Hoshiarpur.

2. Jagtar Singh. **Guru Ravidass sambandhi janam sakhi sahit: Ik alochnatmak adhyayan.** Panjab. Dr D P Singhal, Department of Guru Ravi Dass Chair, Panjab University, Chandigarh and Dr Jaspal Kaur Kang, Directorate of Correspondance Courses, Panjab University, Chandigarh.

Hindi

1. Chaturvedi, Sudha. **Hindi ke swatantrayaottar rajnitik upanyason ka anusheelan.** H S Gour. Dr R D Mishra.

2. Chaturvedi, Sunita. **Amritlal Nagar ke upanyason mein nari kee samajik sthiti.** H S Gour. Dr Anand Prakash Tripathi.

3. Jain, Anil. **Mukti bodh kavya kee bhashik sanrachna ka adhyayan.** H S Gour. Dr Rajmati.

4. Katare, Kusumlata. **Naye dashak ke pramukh Hindi natak.** H S Gour. Dr Bhanudev Shukla.

5. Puri, Mohinder Partap. **Nari-jagaran ke sandarbh mein Jaishankar Prasad kee nari bhavna: Unke kavya aur upnyason ke vishisht sandarbh mein.** Panjab. Dr D P Maini, Department of Hindi, Panjab University, Chandigarh.

6. Sachdeva, Shyam Sunder. **Rajnaitik arthtanter kee drishti se bhakti-kaleen (pramukh) bhakt-kavion ke kavya ka adhyayan.** Panjab. Dr Jaya Prakash, Department of Hindi, Panjab University, Chandigarh.

7. Singh, Sunil Kumar. **Pragatisheel kavyandolan ke paripeksha mein Kedar Nath Agrawal ke kavya ka mulyankan.** BHU. Dr Vijay Bahadur Singh, Department of Hindi, Banaras Hindu University, Varanasi.

8. Sirsate, Govind. **Nai kavita mein samajik yatharth kee parikalpana aur swarup.** H S Gour. Dr Govind Dwivedi.

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Tamil

1. Baby Shakeela, C. **Critical edition and study of Ballads on Madan.** Kerala. Dr P Doctor Nazeemdeen, Lecturer, Department of Tamil, University of Kerala, Kariavattom.

Malayalam

1. Jacob, Shaji. **Indian tradition as reflected in the works pf O V Vijayan and Anand.** Kerala. Dr V S Ramakrishnan, Lecturer, Department of Malayalam, University of Kerala, Kariavattom.

2. Suchitra, M S. **Keraleeyata-Edassary Govindan Nair, VailoppilliSreedhara Menon, Pala Narayanan NairEniovarude Kavitakale aaspadamakki oru petanam.** Kerala. Dr N Mukundan, Lecturer, Department of Malayalam, University of Kerala, Kariavattom.

History

1. Agrawal, Neeti. **Varanasi mein Jain Dharm: Puratatvik evam sahityik sandarbh mein.** BHU. Dr M S Shukla, Department of Ancient Indian History, Culture and Archeaology, Banaras Hindu University, Varanasi and Prof V C Srivastava, Department of Ancient Indian History, Culture and Archaeology, Banaras Hindu University, Varanasi.

2. Gour, Chandrabhan Singh. **Sagar Jile mein prapta vaishnav pratimayon ka adhyayan; prarambh se 12vin shatabadi tak.** H S Gour. Dr Shridhar Mishra.

3. Gupta, Rajni. **M K Gandhi and Subash Chandra Bose: A comparative study of their perception of and contribution to the Indian National Movement, 1920 to 45.** H P. Dr S K Gupta, Department of History, Directorate of Correspondance Courses, Himachal Pradesh University, Shimla.

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THESES OF THE MONTH

A list of Doctoral Theses accepted by Indian Universities

SOCIAL SCIENCES

Library & Information Science

1. Gupta, Vijaya. **Growth and development of children's literature in Hindi published in Independent India.** Delhi.

2. Tiwari, Brijesh. **Gyan vargikaran pranaliyan: Udbhav, vikas evem sambhavnayen.** Jiwaji. Dr S M Tripathi, Prof and Head, Department of Library and Information Science, Jiwaji University, Gwalior.

Journalism

1. Majumdar, Biplab Kisor. **Hurrish Chunder Mookherjee: The architect of Indian journalism.** Calcutta.

2. Mitra, Susanta Kumar. **Satabdvir sambadapatra sadhanai patrika.** Calcutta.

Psychology

1. Arifunnisa. **A study of behaviour problems of school children and its relation to educational achievement.** Bangalore. Dr M S Thimmappa, Prof and Chairman, Department of Psychology, Bangalore University, Bangalore.

2. Chopra, Harpreet. **Impact of rehabilitation programme on social adjustment and family environment of schizophrenics.** Delhi.

3. Mariadas, Annette Chitra. **Effects of alcohol on central nervous system functioning in non-dependent alcohol users.** Bangalore. Dr C R Mukundan, Assoc Prof, Department of Clinical Psychology, National Institute of Mental Health and Neuro Sciences, Bangalore.

4.. Sakhuja, Tripti. **Hemisphercity and cognitive concomitance.** Delhi.

5. Shish Pal. **Inheritability (h2) of intelligence (g): Inter and intra racial comparisons.** Kukurkshetra.

6. Xavier, Maria. **Perceptual motivation and personality variables as predictors of product purchase behaviour.** Baroda.

Sociology

1. Anantaram, Sharayu. **Ambedkar and Savarkar: Their social and political philosophy with focus on untouchability.** SNDT. Dr Y B Damle.

2. Christopher, Antony J. **Working of integrated rural development programme.** TISS. Dr G Pandey.

3. Davala, Sarath Chandra. **Industrial relations in a public enterprise: A sociological study.** Delhi.

4. Dhanalakshmy, N. **Infant and child morbidity in rural A P: Bio-social determinants.** Venkateswara. Dr M S R Murthy, Department of Population Studies, Sri Venkateswara University College, Tirupati.

5. Khan, Monirul Islam. **Irrigation and agrarian structure with special reference to labour in a village in Bangladesh.** Delhi.

6. Merchant, Amrapali Mahendrakumar. **Integrated rural development programme and rural poor: A sociological study in the context of Anand Taluka.** Patel. Dr A S Patel, Ex-Prof, Department of Economics, Sardar Patel University, Vallabh Vidyanagar.

7. Mishra, Sanjay Kumar. **Industrialization and social structure: A case study of Hatia, Ranchi.** JNU. Prof K L Sharma, Centre for the Study of Social Systems, Jawaharlal Nehru University, New Delhi.

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9. Sharma, Shashi. **Adivasi mahilayen evem vikas: Vishesh rup se Mandla Jile kee Dindori Tehsil kee adivasi mahilayon ke vikas ka vishleshan.** Durgawati. Dr (Smt) S Shukla, Department of Sociology, Rani Durgawati Vishwavidyalaya, Jabalpur.

10. Sukhdev Singh. **Role of rural development agency in Patiala District of Panjab: A sociological evaluation.** Punjabi. Dr P S Jammu, Head, Department of Sociology, Punjabi University, Patiala.

11. Talwar, Prashanth Y. **Family and peer group influences and level of aggression among adolescents in two communities in Mangalore.** TISS. Prof P Ramachandran, Department of Research Methodology, Tata Institute of Social Sciences, Bombay.

Social Anthropology

1. Bagchi, Tilak. **Anthropology of tribal food and nutrition: A comparative micro-study.** Calcutta.

Social Work

1. Kamat, Vinay R. **Political and cultural context of primary health care implementation: Study in a Region of Rural Maharashtra.** TISS. Prof C A K Yesudian, Department of Health Services Studies, Tata Institute of Social Sciences, Bombay.

2. Kochuthresia, V J. **Residential child care institutions in Kerala with special reference to their organisational characteristics.** TISS. Prof (Ms) G Methew.

Political Science

1. Acharya, Sanjib Kumar. **Sino-Canadian relations, 1949-1985.** JNU. Prof (Mrs) Gargi Dutt, Centre for East Asian Studies, Jawaharlal Nehru University, New Delhi.

2. Biswas, Santosh Kumar. **Refugee rehabilitation in West Bengal with special reference to the District of Nadia.** Calcutta.

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9. Sondhi, Sunil. **Science, technology and India's foreign policy with special reference in Indo-U.S. relations, 1947-64.** Delhi.

10. Yadav, Dinesh, **Sino-Pakistan relations, 1960-85.** Delhi.

Economics

1. Hilda Raja. **A study of integrated rural development programme as a programme of poverty alleviation of the schedule casts in Tamil Nadu: Case study of Three Districts.** Madras.

2. Jaiswal, Pankaj. **Jabalpur Sambhag mein vansampada: Ek arthik mulyankan.** Durgawati. Dr N K Pandey, Principal, G S College of Commerce and Economics, Jabalpur.

3. Kanwal Kumar. **The communication training needs of resource persons of agricultural component of 'Mera Pind Mere Khet' programme of Doordarshan Kendra, Jalandhar.** PAU.

4. Lakhwinder Singh. **Industrial development in Parjab: An analysis of growth of productivity and structure of wages.** Punjabi. Dr Surinder Singh, Reader, Department of Economics, punjabi University, Patiala.

5. Raju, K V. **The economics of rubber-based industry in Kerala.** CUST. Dr Jose T Payyappilly, Prof, School of Management Studies, Cochin University of Science and Technology, Kochi.

6. Sailaja, B R. **Economics of rural non-farm activities in a drought prone area: A study in Kurnool District of Andhra Pradesh.** Venkateswara. Dr K Srinivasulu Naidu, Department of Economics, Sri Venkateswara University College, Tirupati.

7. Samadder, C R. **Co-operative movement in Assam with special reference to its impact on the tribal sub-plan areas.** Dibrugarh. Prof A Goswami, Department of Economics, Dibrugarh University, Dibrugarh.

8. Saradamani, P. **Public expenditure on education and economic development in Kerala, 1956-1984.** Delhi.

9. Shukla, Santosh Kumar. **Swatantrate ke uprant Madhya Pradesh mein resham udyog ka vikas evam samasyayen.** Awadhesh. Dr N P Pathak, Lecturer, Department of Economics, Awadhesh Pratap Singh University, Rewa.

10. Subramaniyam Chetty, V. **Minor irrigation in drought prone Rayalaseema: A study in economic history.** Venkateswara. Prof D Narasimha Reddy, Department of Economics, Central University, Hyderabad.

Law

1. Challa Jayaram. **A socio-legal study of child labour in India with special reference to West Godavary District in Andhra Pradesh.** Berhampur. Dr M A A Baig, Reader, Department of Law, Berhampur University, Berhampur.

2. Chaturvedi, Kameshwar Nath. **Taxation of charitable trusts: Perspective and proposals for reform in Indian Law.** Kurukshetra.

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5. Mishra, Govind. **Right to privacy in India.** Delhi.

Public Administration

1. Bhaskar Rao, Y. **Zill Harijan Development Co-operative Society (ZHDCS): A study of its organisation and working in the Cuddappah District of Andhra Pradesh.** Venkateswara. Dr A Reddappa Reddy, Lecturer, Department of Public Administration, Sri Venkateswara University Post Graduate Centre, Tirupati.

Education

1. Chaudhary, Sohanvir Singh. **Teachers attitude toward school television and its relationship with mass media behaviour and job satisfaction.** Delhi.

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4. Joshi, Kanubhai Gordhandas. **An investigation in to the effectiveness of problems solving approach on the performance and personality of secondary school pupils.** Patel. Dr K M Shah.

5. Kang, Gurpreet Singh. **A comparative study of sportsmen and non-sportsmen with respect of their personality needs, adjustment and aptitudes.** Punjabi. Dr T S Sodhi, Reader, Department of Education, Punjabi University, Patiala and Dr Agyajit Singh, Reader, Department of Psychology, Punjabi University, Patiala.

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12. Rama Rao, Pydikondala Venkateswara. **A critical appraisal of Andhra Pradesh Audio Video Project in primary schools.** Andhra.

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implementation. Kurukshetra.

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Home Science

1. Bhargava, Vennu Ashok. **A study of vocational aspirations of Home Science College students and their opinions regarding the adequacy of their preparation to take up vocations.** Baroda.

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2. Rajpurohit, Ram Chandra Singh. **Growth of professionalisation of management in India.** Rajasthan. Dr R B Upadhyaya, B-38, Prabhu Marg, Tilak Nagar, Jaipur.

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Master's degree or L.L.B. from a recognised University with a good working knowledge of Hindi and English and not less than five years' experience in an administrative/supervisory capacity in a University or an organisation of comparable standard.

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1. Higher pay admissible in the case of meritorious candidates.
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4. Applications received after the last date

for the receipt of applications may be rejected without making any reference to the candidates.

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ADDENDUM

Addendum to Advt No 030/RAC/91 regarding various posts of Scientists publised in this paper on 13 January 1992.

Add the following posts of Additional Chief Construction Engineer/Dy Chief Construction Engineer/Deputy Project Manager/Deputy Estate Manager:—

Chief Construction Engineer (R&D), Secunderabad

Additional Chief Construction Engineer (Rs. 4100-5300) (Non-DRDS)

Item No 36 — 2 Posts.

Essential Qualifications : (i) Bachelor's degree in Civil/Electrical/Mechanical Engineer from a recognised University or equivalent. (ii) At least nine years experience of planning or execution of works. (iii) Experience in planning/execution of major time bound projects of Work shops/Factories/Research Establishments.

Desirable Qualifications : Knowledge of Scales of accommodation, Budget monitoring and quantity surveying.

Dy Chief Construction Engineer (Rs. 3700-5000) (Non DRDS)

Item No. 37 — 3 Posts.

Essential Qualifications : (i) Bachelor's degree in Civil/Electrical/Mechanical Engineering from a recognised University or equivalent. (ii) At least six years experience in planning and execution of works. (iii) Experience in planning/execution of major time-bound projects or Workshops/Factories/ Research Establishment.

Desirable Qualifications : (i) Degree in Building and quantity surveying from Institute of Surveyers. (ii) Knowledge of Budget Control and monitoring of works. (iii) Experience in formulation and planning of civil works.

Deputy Project Manager (Rs. 3000-4500) (Non DRDS)

Item No. 38 — 1 post.

Essential Qualifications : (i) Bachelor's degree in Electrical Engineering from a recognised University or equivalent. (ii) At least five years experience of planning/ execution/operation/maintenance of high power transmission facilities and/or main/sub stations of which 3 years should be in handling of actual projects on the field.

Desirable Qualifications : (i) Experience of installation of high power lines/ power stations as a time bound project. (ii) Knowledge of monitoring/Control of related works expenditure.

Deputy Estate Manager (Rs. 3000-4500) (Non DRDS)

Item No. 39 — 1 Post

Essential Qualifications : (i) Bachelor's degree in Civil/Electrical/Mechanical Engineering or Architecture from a recognised University or equivalent. (ii) At least five years experience in Estate Management (i.e. encroachments, developments, usufructs and litigaton), provision of civic amenities for inhabited estates, arboriculture and environmental health, civic taxes etc. and experience of land survey and land acquisition, valuation of land, rules related to hiring of immovable property.

Desirable Qualifications : (i) Experience in planning/design of works connected with time bound projects. (ii) Knowledge of Budget Monitoring and control of works expenditure and scales of accommodation.

Age limit for Item No. 36 is 50 years, for Item No. 37 is 45 years and for Item No. 38 & 39 is 40 years. However age is relaxable by 5 years in case of Govt servants and those belonging to Scheduled Caste/Scheduled Tribes communities. All general conditions etc remain same. However, the last date of receipt of applications for the above post is **10th Feb 92**. In respect of candidates from Andaman & Nicobar Islands, Lakshadweep and Abroad, the last date of receipt of applications will be 24 Feb 92. Crucial date for determining age of candidates will be 10th Feb 92.

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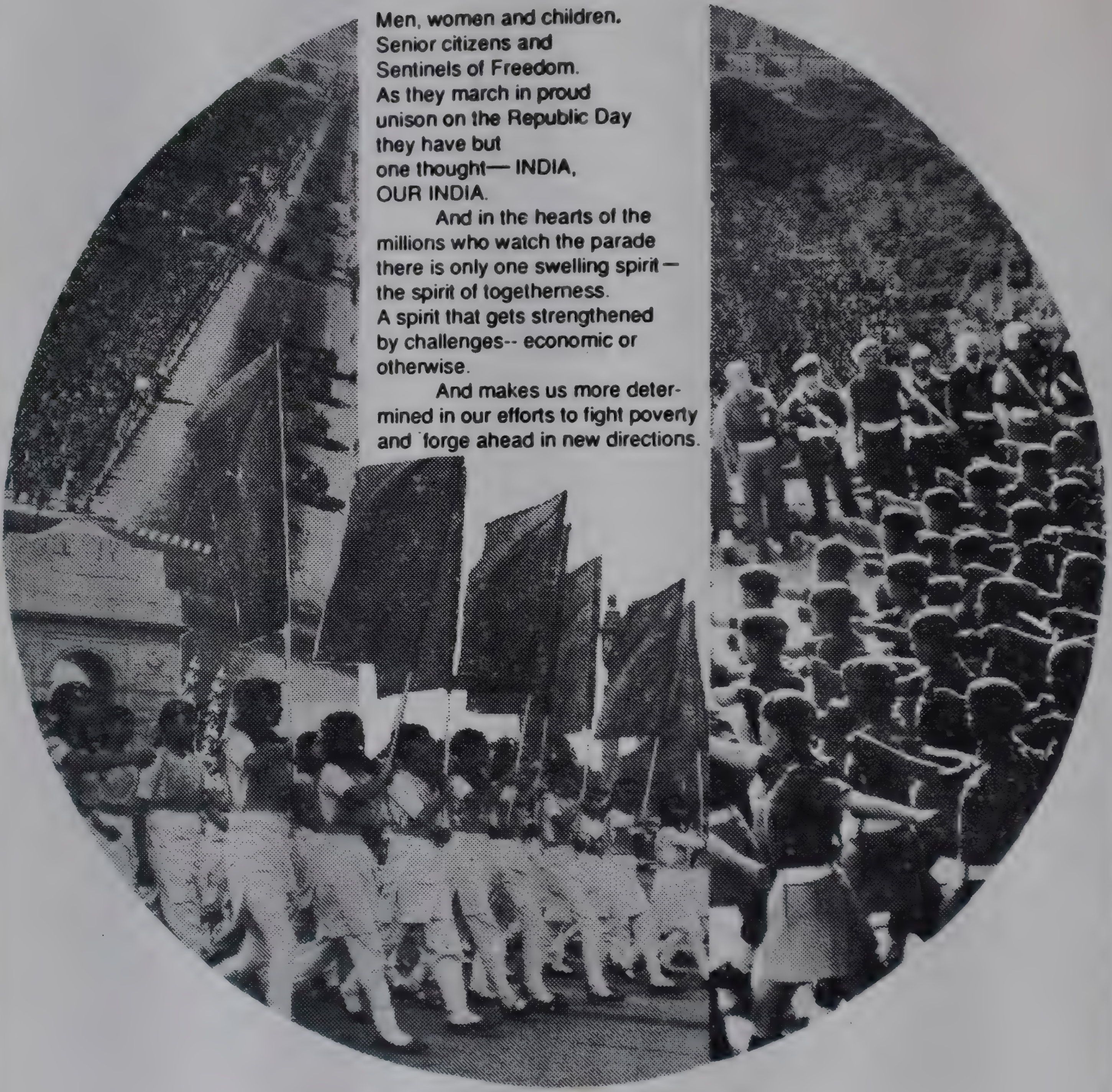

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Editor:
SUTINDER SINGH

The Fascinating World of Books

This issue of *University News* is different. Unlike our earlier numbers published to mark the New Delhi World Book Fair wherein we had invited contributions on publishing, libraries and the future of the book, this issue comprises articles by our readers on books they had recently read and enjoyed, their favourite authors that interested and inspired them, or on trends in different subjects as discerned by scanning books published during the last 10 years. Our readers have been very generous in their response and we are really overwhelmed by it. As was to be expected the sweep has been very wide indeed. There are articles, not only on literature – English, African, American, German, but also on subjects as diverse as Mathematics, Physics, Philosophy, Sociology, Economics, Law, History, Management, Education, Library Science and Publishing. You will thus discover a large variety in the articles that make up this issue. There are articles about individual books, individual authors as also on the array of literature in different subjects. We were also fortunate to have some glimpses of the literature in Indian languages like Tamil, Telugu, Oriya and Urdu. One thing is very reassuring indeed, that everything is not lost to the electronic media; Books are being read as extensively as of yore.

While going through these articles we noticed that by and large it were old books that attracted readers' attention rather than the more recent ones. This has been perhaps due to the almost crisis situation in the publishing industry. Even in the best of times the industry was marked by a scarcity of capital. Not only was the capital scarce, it did not rotate as fast as it does in other industries. This has been primarily for two reasons: one, the long gestation period in the publication of books, and, two, the long term credit that has to be allowed to educational institutions. As if, these constraints were not enough, cash deposit prescription for import of books was enforced by the Reserve Bank of India. The net result of all these factors has been highly reduced access to new publications. While, fortunately, the cash deposit prescription has been greatly eased, and is likely to be withdrawn altogether, some steps require to be taken to help the publishing industry on a permanent footing. One, the government may consider setting up a Book Finance Corporation on the lines of the Film Finance Corporation of India – an exclusive institution to ensure that the publishing industry was not stifled for want of funds; and two, publishing may be recognised as an industry so that bank advances can be secured against published books like other industries who can avail of the institutional finances against their products. Thus the direction by the Good Offices Committee that all bills be cleared within 60 days by the educational institutions is welcome. These measures should ease the situation to a considerable extent.

These steps are necessary in recognition of the importance of the book in the intellectual life of the country. Generation and dissemination of knowledge is necessary for national development and there can be no better instrument for the purpose than the book. Easy access to books is not only necessary for the intellectual community i.e. those engaged in the vocation of generation and dissemination of knowledge, but also, and more so for the neo literates. All the gains of National Literacy Mission and the various campaigns being launched under its auspices would be lost, if the neo literates are allowed to relapse into illiteracy for the lack of adequate and appropriate reading materials. The only way to ensure that this does not happen is to promote the development of a living, vibrant public library system. Sad to say that even after four decades of freedom hardly half of the Indian States have enacted library legislation. We have neglected our libraries for much too long. Some exercises were undertaken to formulate a national library and information policy. It is time we pick up these documents and ensure their implementation.

This special issue of *University News* is dedicated to the 10th New Delhi World Book Fair being organised by the National Book Trust, India, in collaboration with the Federation of Indian Publishers and other book trade organisations on 1-9 February 1992. An impressive array of activities has been scheduled before and during the Fair. In addition to the 24th Congress of the International Publishers Association, Seminar on the Internationalization of Scholarly Publishing jointly organised by the International Association of Scholarly Publishers and the Asian Association of Scholarly Publishers, and the 3rd Afro-Asian Publishing Conference, the NBT has arranged two hourly presentations on editing, designing, production, marketing and the electronic book on 3-7 February 1992. The conferences, the seminar and the presentations apart from providing the much needed exposure to the Indian publishers are expected to make them more quality conscious. We wish the 10th New Delhi World Book Fair a grand success.

Gordon Vorster's 'The Textures of Silence'

A Rebirth of African Identity

Indrajit Bhattacharya*

The history of African Continent, particularly, that of South Africa, in the twentieth century, has witnessed a wave of nationalistic spirit sweeping Africa against the Western Imperialist exploitation. There has been a keen desire and attempt on the part of African leaders and African people "to build up their own unique image of what they call 'American Personality', and wipe out the impression of 'Primitive Africa', a land of Bantus, Zulus, Hottentots and many other primitive tribes. In their efforts to smash their primitive image, Africans do not wish to get lost in the culture of the West, which degraded them and held them in servitude".[1] An African communist of the West Indies with 'Aime Cesaire' as his pen name coined the word 'Negritude,'[2] the collective Negro-African personality. For the South African writers "to deny a concern with race, with equality and social justice, would not only be to surrender self-imposed burden of writer as reformer, but would mean denial of their own everyday experience".[3]

Gordon Vorster's novel *The Textures of Silence* published in 1984 projects the author as a major novelist beside Nadine Gordimer, J.M. Coetzee and Andre' Brink. The novel is the tale of Daniel Cilliers who literally lacked his identity. Daniel Cilliers is the symbol of African Continent as such. The creature, around which the whole story is built up shows how he, being critically injured at the age of three weeks in an accident, turns out to be someone or no one, being blind, deaf and dumb and spastic. He lives in his own world as someone who lacks thinking or feeling. It continues till the age of fifty. Through the silences of Daniel or Daan, his wet-nurse Mina Long, his guilt-ridden mother Bettina Cilliers, his depressed father Dawid Cilliers, his later caretaker Maria, the cleaning girl Silver Adams, the priest Reverend Doctor George Webb and the Lawyer Bertrand Theron the rebirth of Daan takes place. All of them are story-tellers but all of them were also quiet to talk anything about him outside till his rebirth. As the story grows Daan too grows. With the growth of novel the growth of Daan takes place. It is through the growth of novel and through the tales of story-tellers Daan's 'Sojourne to Rebirth' occurs. 'Dan' for Africans is the serpant, 'the god of miracles".[4] It is the God Dan's image that we discover in Daan. He is miracles-emboided. Though the novel begins with Daan's own venture at telling the story after his rebirth, introducing himself to the readers but the silent associations of Mina Long and later, Maria with Daan reveal the process of his rebirth. Daan is the novel and novel is Daan. The novel thus follows a pattern of a meta-fiction.

Daan was born in 1921 as a blind, deaf, dumb and spastic child due to his mother who was infected with gunorrhoea by way of her affinity with William Clark, a soldier in Pretoria at his regiments' headquarters. His mother Bettina was the daughter of a prominent local family of the Paulsons in the village of Skeerpoort, forty miles away from Pretoria and near Kingerdrop. His father was Dutch. He was a farmer. He married Bettina and also inherited his father-in-law's property. Skeerpoort, where Daan was born, "was an extremely charming little Victorian village nestled between the Magaliesberg mountains and a range of hills known as Schurveberge".[5] The mountains were of dolomite rocks. However, down in the valley the earth was "rich, deep and wonderfully fertile with two rivers the Magalies and Skeerpoort".

The story of Daan's rebirth is more a story told by womenfolks than by menfolks as perhaps the author believes that the rebirth of African identity is possible through nationalistic spirit, the love for motherland, the love of and wish to discovering the identity or image of the African cultural, mythical and folk values, searching out the roots uniting all the unifying all thoughts with a view to struggle till the end for the end. There are twenty chapters in the novel and the distribution is such that Daan has three, Maria and Mina have three each, Maryna has four, Silver Adams has one and apart from Daan there are also two other male story-tellers Reverend Doctor George Webb, the priest and Bertrand Theron, the accountant cum lawyer. These story-tellers relate and reflect on how Daan's process of rebirth takes place.

The birth of Daan yields his mothers Bettina a sense of guilt and subsequently earns her the traumatic days who takes herself into a world of abstinence from all

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* *Department of English, S.N. M. College, Tumsar-441912 (Maharashtra)*

modes of living a normal life. A self-desolation and self-desertion is imposed as she considers herself solely responsible for the traumatic existence of Daan who was spoilt and contaminated when he was growing from a seed in his mother's womb. The tormented mother tried to concentrate on the other sense-organs of her little child. In her journal she writes :

> My concern was since I know he could not see or hear perhaps he could smell. And I made for him the most fragrant world that it was possible to make, ... For instance, when he was an encotted baby he smelt only the most delicate perfumes of Paris, Rome and London ... Oh I know that extraordinary fragrances can be created in laboratories, but the French will always go to the plant, and that, to me, is somehow more precious although the synthetic perfume may, in terms of olfactory powers, perhaps be more effective.[6]

Daan's father who was a "wonderful carpenter" time and again procured or made different equipments to teach Daan how to walk. He "had made a little kind of cart for him with pram wheels, something that he had seen on a larger scale in a book on the rehabilitation of war wounded, that allowed the wasted torn limbs of Flanders to exercise without using the full weight of the body on the legs." [7] He "made his exercises, or 'walk trainer' as he called it, using only the softest of woods with the nicest grains, and, except for the three ball-bearings that he used on the three little arms and shoulders, it was all made of wood, . . . a kind of sunken walkway, in which, like a track, the little wheels could move and be guided, . . . "[8]

There were some exercises that Daan had to undergo, periodically and consistently, rather he was made to undergo the walking exercises. The walking track was in the garden. In the private garden of the Cilliers Bettina ". . . planted shrubs and herbs of the greatest fragrances that I could find, even writing away to as far as Kirstenbosch Botanical Gardens in the Cape and Kew near London. They sent me plants of many strong sweet odours".[9]

Bettina also took care of his taste organ. Perhaps, she thought that by making the organs of smell and taste active she could possibly help in bringing some kind of tremors or activeness in his other organs. She says, "I would spend hours of my days searching for the mild nuances of flavour that may have pleased him, if he had allowed himself a sense of taste".[10] By pointing to these organs perhaps author hints at the term 'Negritude' which implies the revival of the roots, social and cultural and the love for the soil.

As Bettina could not suckle the child for want of milk Mina Long, a black woman, was asked to do the same as she lost her own child just after his birth a day or two before Daan's birth. About her joining the Cilliers she says :

> Because of Oumiesies was always a little woman, with almost no breasts at all, and I was suffering with too much milk that was hurting me, I became the young Baas Daan's wet nurse, who would look after him and see that he grew strong because of the rich Balobedu milk of my great breasts which is the best milk you will find in Africa.[11]

And we see how Mina is proud of her race though she looks down upon coloured and black girls : "A lot of coloured and black girls made extra-money by being whores and sleeping with just anybody for fun and money".[12] Reflecting on her race she says :

> I only had a little white blood in my veins, that went back many years, and so you will see that I am nine tenths black. My real race is the people of Vendaland and I come from the best of the tribes, being a Balobedu, the people of Modjadji, the Rain Queen.[13]

About Daan she feels, "He is just like my own baby"[14] though she seems to be quite prejudiced against the white people who do not seem to have manners she believes because they "speak so much, they are like windmills that have not been properly greased, . . . "[15]

The Editors, O.R. Dathorne and Willfried Feuser, in the introduction to the book *Africa in Prose* says, while talking about recent South African novel that ". . . its theme is cultural emancipation,"[16]

Bettina could not forgive herself as she says "I have a guilt, because I enjoyed creating Daan, and he emerged with the seed of blindness from my womb, and then I hurt him, made him into a lifeless, listless monster."[17] The European and Western Imperialists, in fact, made a `lifeless, listless monster' out of Africa. "The white masters treated the black Africans with contempt, as they were considered as primitive people far removed from modern civilized way of life."[18]

She not only tortured herself but also spoilt the sex life of her husband. She was so penitent that we read her write,

> "Often I would join my son in his world by stuffing plugs of cottonwool into my ears, and taking a length of black crepe with which I masked my eyes from the world. I would sit as quietly as I could . . . and I pretended to

> myself that I was deaf and dumb and blind. The experience at first filled me with terror. . . , I would spend many afternoons of my life keeping my son company in his world, or as much of it as I could create."[19]

She thus tried to create the world of her son his nothingness that she presumed. She tried to discover the textures of his silence penetrating his silent world after creating it within. She writes " I did formulate, like a Buddhist, an understanding of the concept of nothingness into which I could allow my personality to go, on a journey into a world of immense tranquility."[20]

Daan's silent world was an enigma to all those who were aware of his state. Everybody tried to enter deep into the hushed silence of his life. The woods of Africa charm all with their deep dense greenery but simultaneously they do project a dreadful silence. It was not only the silence of the land of Africa but that of every human voice of African soil.

Though Bettina stopped her sexual contacts with her husband, she confesses,

> "There were the uncontrollable dreams over which I could exercise no discipline. These took the form of my actually having intercourse, usually with the sort of monster that inhabited my nightmares as well... These ogres lurked, genuinely, beneath my so called straight-laced spinsterish exterior .... The awful experiences of my sexual dreams, the heinous privates of the friends who gave me such thrilling pleasures as they penetrated me with their vile, diseased lusts and emissions, were part of me, I could not deny them ... They were my foul husbands, my half-decomposed lovers... I hurt myself down there where they took their ghastly pain squeezing my breasts until the great bruises left by my fingers, bled. I tried to abuse myself so that my ghoul –lovers would find only ruins to ravish."[21]

Dawid Cilliers, who was deserted by his wife from his physical release and relief inasmuch as the mental and psychological hollowness, came in contact with Maryna, another story-teller of Daan who had come over the village of Skeerpoort as Social Welfare Officer. Dawid fell in love with her. It was so keen that Maryna remembers him speak once,

> "I'm always lonely when I'm away from you. I'm fifty one years of age, in love, and I know that there's only twenty or thirty years left. That's not a lot of time, when you love someone as much as I love you. It's very short. Even if I live to be hundred, the time left will always feel short to me. I can't have enough of you I wish they hurry up and invent something that will give me more life, so that we can be together for longer. I want to stay with you and marry you."[22]

After the death of Dawid Cilliers who died of a heart-attack the situation took a turn. Before his death Mina happened to get a gift, a radio. One day she "had it in the room with Baas Daan, and I was busy washing him, and when I turned him to do his backside, his ears got close to it, so he moved his ear closer, and he took the radio in his good hand, and he held it to his ear and I swear to God he was listening to the radio... He had to have the radio next to his ear, and so he could hear things, because he would not let me take the radio away from him".[23]

Mina Long also brought another secret into the knowledge of Maria who joined her after the death of Daan's mother who died after she reached seventy. Mina was also about seventy. But yet she had continued to attend to Daan every four hours a day regularly without any gap. The secret that Mina revealed to Maria was: "I put his head against my bare chest..., and I spoke to him in a low voice, with his ear pressed flat against my chest he said 'mamma'. He was almost fifty".[24]

Although Daan was blind, deaf and dumb and spastic he reflects on his own sexual awakening after his rebirth which Mina Long could not discover. However, apart from Daan another person, who was aware of that fact, was Silver Adams, the cleaning girl. Daan says,

> My own awakening to an enormous experience was when, one day, or it might have been one night I was fondling my penis and it stiffened under my exploring fingers. There was nothing new in this. It was happening to me for a number of years, ... There was a form of sensation down there, not unpleasant, like a warm tickling, not more. But, on the day I was telling you of, my fingers found a new kind of motion, and, although my arm was getting tired and my fingers were over-tense, I did not stop....[25]

In this way Daan discovered the activity of masturbation, a self-sexuality that was no amusing and amazing to him which he kept on doing regularly being unaware of day and night. However, Mina Long once saw him doing that and stopped him from that activity. Relating his experience Daan says that one day "my genitalia insisted on remaining in the erect, tight state, with my testicles virtually drawn up inside me. Strange spasms shook my body, like the involuntary pinching movements of the buttocks and anus."[26] Later, he says,

> "This continued, and became harder, firmer and quicker, until I reached the point of extreme encruciation, a pleasure pain that had me gasping for breath, my head in a state of throbbing tightness and then I experienced a sharpening of spasms. I could feel the wetness of the ejaculation on my hands, but I had no idea of what it could have been."[27]

Daan's tacticle sense perception improved when Maria, the new nurse, stayed one night with her patient. That night when Daan wanted to relieve himself she loosened his chain and gave him support. The human supportive balance was new to him. She then "removed his old fashioned night-shirt, and sponged down his body with soft lukewarm water and Pears soap, and, as was to be expected, while I was cleaning his genitalia he immediately reacted.

I wondered what to do in his case. I would certainly relieve him, because that is the job of a nurse and a doctor, to relieve the patient's symptoms, ... I didn't want him to live and die without ever knowing what sex was about. I thought of using my hands, and a soft lotion,....

I removed my clothes and lay down next to him putting my arms about him. It struck me that he had probably never been kissed, so I did it quickly, softly, gently on his lips, and his eyes, his neck and ears, and his cheeks, and I put my breast to his mouth, between his lips, and as he kissed it, his body found mine, but before I could teach him any further, he had done, and he lay back from me, gasping, in the crook of my arm, with a confused look on his face. I pressed his head to my breast, and held him there while he slept."[28]

Daan's thin aural sense made Maria to contact Doctor Markham of Johannesburg who with his "new surgical technique for a far more serious fracture of the stapes"[29] performed the operation successfully and the days of Daan's silence were over. In the sound, speed and language laboratory built up by Maria and her physiotherapeutic colleagues Daan mastered the first thousand words of basic English within six months. Here one thing is worth mentioning. The author, by reflecting on Daan's oral skill and his recovery from deaf and dumb state, hints at the voice of the African people, the opinion and their awakening which they learned from th Europeans only.

Later, Daan himself came to know about the stereotaxi surgery from his own studies on the subject of cerebra palsy and contacted Doctor Brochard who worked wit Doctor Hooper and "experimented with implantation o electrodes in the brain to relieve spasticity, ..."[30] Th operation that was performed was followed by a few day of intensive physiotherapy. Vorster here suggests the fac that unless one recovers from physical or mental spasticity that is, from lethargy and laziness of mind through proper extricating of thoughts from the layers of the intricate mould of one's brain nothing constructive could be done.

The final operation of Daan was that of his blindness. Though Daan was quite willing to go through with the operation Maria felt that she "had such a short time with him, and now it's all over, in a moment. ... There's a possibility that he will be able to see what I look like, so that ends. ... I know what I see in the mirror and if he ever sees that then I'm afraid it's all over for me. .... I know exactly now and why I was alive, because I loved Daan and I wanted to care for him for the rest of my life."[31]

Maria, who was the younger sister of Maryna, met with a severe accident when she was just reaching the stage of puberty. She was beautiful. But the accident took her beauty and charm away. She had to spend many years in hospitals. She says,

> "I was the most gravely injured of all, the patients of all the hospitals, yet I had managed, miraculously, to survive, in spite of sepsis, bone structures revealed by non-growth of tissue, subsiding. .... I know that there were members of my family who prayed for my death for what they called 'a release from my hideous suffering'."[32]

Her "vocal chords had become dreadfully damaged, and my eyes, with their lids burned off, could not be closed as I lay looking at my own blood,"[33].... Before coming to take care of Daan, Maria was in the military hospital which she had joined as a trainee nurse and left the job as a Major.

However Daan's love for Maria was so much that her predicament was just the outcome of her own ratiocination, Maryna says about Daan,

> "Daan would never let a day go by without asking Maria to marry him, and I got very angry with her, when she refused him. ... She was still subservient to her injury, and it depressed me to feel that she would go through her entire life without once knowing that

> her appearance had, at last become a zero factor."[34]

Daan himself contacted William Laidlaw after reading about "Visual Evoked Response," "a bewildering method of diagnosis and testing by means of electronic amplification and computerised monitoring, ..."[35] who recommended him to Doctor Teasdale. About a week before he went to hospital, Daan told Maria and Maryna,

> "I know that Maria is planning something drastic. I know because I can feel it as a grassland knows the drought is threatening. So, I tell you, if you leave me, Maria, I will die, because I need you. We are not divisible. Don't let her do anything silly, Maryna, I trust you to be my eyes until then".[36]

After his operation Daan expressed his desire to see Maria. Dr. Teasdale told Maria, "You're his dream of beauty fixed by his auditory and tactile experiences of you, and those far outweigh the sense of sight"[37] Later, Daan married Maria, took over the farm with no worries to trouble him. Mina says about Daan in the last chapter, "Baas Daan grew the right way, slowly for fifty years, and now he is a beautiful tree, ready to be used by the forest around him, and the little trees and shrubs about his roots, and he shadows the frail, tender shoots, so that they are not searched."[38]

Daan's regaining the sight and finally marrying Maria proving the senses of hearing and touch superior to the sense of sight implies that African people have not failed to recover from their blind state and have recognized their deep rooted strength and true identity through the mask of illusion. Also, Daan's permanent bond with Maria seems to mean that culture and traditions should be understood thoroughly not superficially if we have to discover our identity. Daan's rebirth implies the rebirth of Africans, they have discovered their identity through a constant perception of their culture, heritage, myths and morals which has taken a long period of time, through their silences.

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Nadine Gordimer

"To Read Her is to Discover Africa's Realities"

K. Venkata Reddy*

Among the recipients of Nobel Prize for 1991, perhaps, none evoked a greater excitement and joy among the public than Nadine Gordimer, a South African woman writer who has been relatively less known in the literary world. Small wonder that the happy news gave a pleasant surprise to the writer herself who is now giving lectures in New York. However, the most covetous award of the Nobel Prize for literature for Gordimer is not altogether surprising for those who knew that she has already won the Booker Prize as well as the French International award. She was also awarded the Scottish Arts Council's Neil Gunn Fellowship for 1981. It may be noted that the Nobel Prize for literature was given to a woman writer after a gap of fifteen years.

Nadine Gordimer is an outstanding contemporary writer of fiction in South Africa. She was born in 1923 to a Jewish couple. She has produced so far ten novels and two hundred short stories. She started writing when she was just nine. She is less overtly political and more concerned with the human results of apartheid than the contemporary writers of fiction in South Africa. In all her writings she emphasises feelings rather than making political arguments. Her writings sensitively explore the psychological and emotional consequences of apartheid. It is Turgenev she most brings to mind. She considers Nelson Mandela and Oliver Tombo as her leaders.

Among the ten novels Nadine Gordimer has produced so far, *A Guest of Honour*, *The Conservationist*, *The Late Bourgeois World*, *Burger's Daughter* and *July's People* stand out for their fictional excellence. *A Guest of Honour* is a novel of total immersions–physical, moral, social and political. It teems with human life, with landscapes of the map and of the mind, with events and insights. It is about an English colonial administrator, James Bray, who was expelled from a central African nation for siding with its black nationalist leaders. He is invited back ten years later to join in the country's independence celebrations. As he witnesses the factionalism and violence, that erupt as revolutionary ideals are subverted by ambition and greed, Bray is ironically forced once again to choose sides, a choice that becomes both his triumph and undoing. It is "a magnificent literary feat". The novelist has woven an intricate tapestry whose threads are love, friendship, idealism, freedom and betrayal.

Nadine Gordimer

The Conservationist is considered Gordimer's masterpiece. The beauty and largeness of South Africa is drawn with a breadth and scope that is breathtaking. It is a novel of enormous power. It presents a fascinating portrait of a man both reckless and calculating, left only with the possibility of self-preservation. It is about a white rich man, Mehring, who has all the privileges and possessions that South Africa can offer, but makes his life tragic. His wife, son and mistress leave him. His foreman and workers become increasingly indifferent to his stewardship. His farm is also destroyed by drought and floods. Isolated, at once cold and passionate, he challenges history in his determination that nothing shall change his way of life. Thus *The Conservationist* is a subtle and detailed study of the forces and relationships that seethe in South Africa today. As Paul Bailey points out, *The Conservationist* is "one of those rare works of literature that command special respect reserved for artistic daring and fulfilled ambition". The novel is a triumph of style too. The sounds, smells and foliage, the weaving lights of the veld are evoked in the passages of "cool delicate prose" that makes the author one of the ablest descriptive writers alive.

The Late Bourgeois World is a remarkable novel dealing with the crises which beset white people in the struggle against apartheid in the South Africa of sixties. Prescient, tender, pitiless and incisive, it reveals a great novelist at the height of her powers. It presents the tragic story of Max who has drowned himself. He wanted to live well with his wife Liz Van Den Sandt in the most honourable sense, but that was not made possible. Highly strong, sensitive and intelligent, he found it increasingly impossible to bear the burden of betrayal and the slow

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erosion of his self-respect. "The New York Times" considered this novel simply "superb".

A novel of social and political import, *Burger's Daughter* is a riveting history of South Africa. It unfolds the story of a young woman's slowly evolving identity in the turbulent, political environment of present-day South Africa. It presents a penetrating portrait of a courageous woman, Rosa Burger, whose father's death in prison leaves her alone to explore the intricacies of what it actually means to be Burger's daughter. Moving through an over-whelming flood of sensuously described memories, Rosa arrives at last at a fresh understanding of her life. Nadine Gordimer's subtle and fastidiously crafted prose sweeps this engrossing narrative to a triumphant conclusion. In the words of Joyce Carol Oates, the novel is "an intensely subjective prose-poem, mesmerising in the subtle candences of its language". It is a beautifully manipulated work of art with its controlled density, subtlety and vitality.

A brave and imaginative work of art, *July's People*, is said to be "the best novel that Miss Gordimer has ever written (Alan Paton in the *Saturday Review*). It is so flawlessly written that "every one of its events seems chillingly, ominously possible" (*The New York Times* Book Review). It is a brilliant and most artistic recordation of how two enlightened, liberal whites–Bam and Maureen Smales–are rescued from the terror of war by their servant, July, who leads them to refuge in his native village. The shifts in character and relationships give us an unforgettable look into the terrifying, tacit understandings between the black and the white. It gives us glimpses into a chasm of hatred and misunderstanding. Thus, *July's People* is an adventurous, powerful and despairing work. Like Jane Austen, Nadine Gordimer seems to aim at perfection in this novel and succeeds in her attempt. As a critic puts it, "every sentence she writes has the special impress of a true novelist's imagination".

Nadine Gordimer seems to be at her best in the short story. She has to her credit several volumes of short stories, the chief among them being *No Place Like*, *Six Feet of the Country*, *Livingstone's Companions* and *A Solidier's Embrace*. She is one of the finest practitioners of the short-story form in South Africa. When her *Selected Stories* was published in 1976, Graham Greene called it "a magnificent collection worthy of all homage".

In *No Place Like*, a collection of thirty one stories, Nadine Gordimer displays all her descriptive power and acute insight, "pinning Africa to the page like a butterfly for our inspection". To read these dazzlingly rich and impressively solid stories in their chronological order is to absorb, what has been happening in South Africa over the years. *Six Feet of the Country* comprises seven stories that distil the essence of what has been happening in South Africa in recent years, through people and landscapes so intensely and evocatively drawn.

In the sixteen short stories which constitute *Livingstone's Companions* Nadine Gordimer deftly evokes the Africa of today, where up-country and its town still reverberates. These stories are poised over the dilemmas of Africa and its denizens of both shades. Gordimer's incomparably precise, witty, unwhiny observations are webbed here with genius. The originality of these short stories is timeless. This volume of short stories is said to be Gordimer's "best work".

A Soldier's Embrace demonstrates once more that Nadine Gordimer is one of the most accomplished writers now working in English. The volume is "extraordinary not only for her style but also for her moral concern". In this masterful new group of stories, she continues to explore the physical and emotional landscapes of South Africa, through powerful themes that know to geographic boundaries.

Thus, both in her novels and short stories, Nadine Gordimer tells us of the strange and immensely moving peril of being a woman in South Africa, as well as the strange and immensely moving peril of the races. She writes :

> It is axiomatic that the urban theme contains the classic crises–tribal and traditional values against Western values, peasant modes of life against the modes of an industrial proletariat, and, above all, the quotidian humiliations of a black man's world made to a white man's specification (*The Black Interpreters*, p. 55).

Nevertheless, Gordimer is more interested in people, and what makes them happy and unhappy, than in political moralities. She comes to us essentially as a fictional artist, achieving a harmonious fusion of her social and artistic concerns.

Like the nineteenth century novelists, Nadine Gordimer unites vast scope with minute attention to the ordinary. Her setting is Africa, but in her Africa we find ourselves. It is to the moments of greatest stress, when frail structures of idealism are being tested by shaking realities, that Gordimer gives the form of literature–novel or short story.

As a white novelist in black South Africa, Nadine Gordimer has a message to offer. She says:

> I do not fear the Blacks, but many whites do. My message to the self-appointed guardians of our culture is : There can be no such thing as South African Literature if it excludes Black Literature (*The Black Interpreters*).

Rarely do we come across a white writer so deeply committed to Black Literature in South Africa. Indeed, 'to read her is to discover Africa's realities'.

National and Universal Outlook in Tamil Poetry

Har Swarup Singh*

Since assuming office at Pondicherry towards the end of 1990, I have had the opportunity of enlightening myself about the rich heritage of Tamil literature, of course by reading translated works and also through my conversations with scholars. The Tamil literary tradition indeed has a long and unbroken history extending over more than two thousand years, dating back to pre-Christian centuries. Like Sanskrit, the contribution of Tamil to the growth of Indian literary and grammatical systems has been of basic significance. The earliest grammatical treatise in Tamil, *Tolkappiyam*, is unique in the sense that it spells out not only the language grammar but also portrays the grammar of people's life-systems. The viewpoint that the mother tongue is not merely a means of communication but also a divine source of inspiration for higher learning and progress in life is reflected generally in Tamil works.

Sangam Classics, the earliest Tamil poetic compositions, are secular and universal in outlook, yet having their roots in native folk traditions. The concept of global village was highlighted as early as two thousand years ago by an ancient Tamil Poet by the name of Kanian Poongundranar who proclaimed that 'each and every village (in the world) is my own village; all are my kith and kin'. It is interesting to learn that Tamil poets used the term 'world' widely even at times when they wanted to mention about their immediate environs, namely village of nearby parts of the country. This 'world consciousness' can be gleaned profusely in *Thirukkural*. In Tamil poetic diction, the usage of the term 'world' is made to signify learning and wisdom in society.

The renowned woman poet Avvaiyar's description of an ideal country, in one of the poems of *Purananooru* of the Sangam period, is thought-provoking. According to her, the greatness of a country is not assessed by its natural resources alone; a really great country is one where good and righteous people live. Another noteworthy feature is that the poets of Sangam period visualised India as one country ranging from the Himalayas in the North to Cape Comorin in the South (*Purananooru*) 7, 17). The references eulogising Himalayas are found abundantly in their poems. Nayanmars and Alwars of the of the South who belonged to the Saivite and Vaishnavite cults sing in praise of shrines situated at Mathura, Dwaraka, Ayodhya, Devaprayag, Kailash and Shaligarm (in Nepal). True to this great tradition, poet Bharati hails the majestic Himalayas, the magnificent Ganges and the ennobling Unpanishads in an unequivocal manner. 'Mother India speaks eighteen tongues, yet her mind is one'. Such emotional voice of national integration is echoed in many of Bharati's patriotic songs.

'Revolutionary Poet' Bharatidasan, a great son of Pondicherry, was an ardent social reformer and his forceful poems throb with passion for Tamil. Yet his vision was broader and he gave a clarion call to unite as one 'sea of humanity', rising above all pettiness and demolishing the walls of separation between homes, streets, villages and nations. Such lofty thinking and global awareness of the modern Tamil Poet are in tune with the glorious traditions built over thousands of years.

Poet Thiruvalluvar's *Thirukkural*, which contains 1330 couplets, can be described as an 'Universal Secular Veda' and his inspiring thoughts are relevant to all times and all societies. The most significant feature of this masterpiece is that each couplet, though short in form, is rich in content giving scope for many interpretations according to the range of one's faculty of thinking. The first Chapter 'INVOCATION TO GOD' contains ten couplets the context of which is so universal that no researcher has so far been able to determine precisely the religious identity of the poet. Another great poet Ilango Adigal, in his *Silappathikaram* (the first original epic of Tamil literature), sings in praise of sun, moon and rain as invocation on Nature-God. 'Kavi-chakravarthi' Kamban's prayer composition in his *Ramayana* is secular in outlook although the basic objective of the epic was to narrate the life of Lord Rama, one of the ten avatars of Lord Vishnu. The use of the pronoun 'He' to denote God (... He is the Master ...) is symbolic of poet Kamban's higher consciousness of universal religion.

Sangam Period and Secular Poetry

The expression Sangam—meaning assembly, collection, company, etc.—has its lexical origin in Sanskrit. However, Sanskrit literature and its beginnings in Vedic religion whereas the roots of Tamil literature were secular in character. Vaishnavism, Salvism, Jainism, Buddhism, Islam and Christianity have all contributed to the richness of Tamil literature on various occasions. Another notable feature is the multiplicity of minor literary genres associated

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with diversity of poetic and prosodic forms.

The literary history of Tamil has its origin in Sangam classics, the period of which is believed to extend from 5th century B.C. to 2nd century A.D. Jainism and Buddhism had their entry in Tamil Nadu in the pre-Christian era itself. The very fact that there is no reference to these religions or to their preachings in Sangam literature testifies that the beginnings of the literary tradition in Tamil predate the impact of Jainism and Buddhism.

Sangam literature deals with human interaction in personal and public life. These aspects are technically known as 'Akam' and 'Puram' which literally mean 'internal' and 'external', respectively. 'Akam' poetry describes the aspects of pre-marital and post-marital love of human beings. The relation between individuals and society, and anything that does not fall within the realm of 'Akam' falls under 'Puram' literature. This classification reflects the broad and universal outlook of Tamil scholars. Literature in any language, oral or written, has to be necessarily either of these in content and character. The 'Akam-Puram' dichotomy has been elaborately dealt with in *Tolkappiyam*.

Epic Poetry

Sangam tradition is followed by the period of epic tradition. The epic period in Tamil literary tradition is discontinuous in character with the early epic period (100-500 A.D.) and later epic period (500-1200 A.D). In between these epic periods falls the period of devotional literature (600-900 A.D.). The early epic period is represented by two works, namely, *Silappathikaram* dealing with the story of anklet, and *Manimekalai*. The author of Silappathikaram, Ilango Adigal, was a Chera prince and a follower of Jainism. The Jain teachings and philosophy are dealt with through the character Kavunti in milder terms; he has not denigrated the values of Hinduism anywhere in his work. *Manimekalai* authored by Seethalaichathanar is an epic propagating Buddhism. Both these are considered twin epics since Manimekalai, the main character is Seethalaichathanar's epic was the daughter of Kovalan and Madhavi figuring as leading characters in Ilango Adigal's work.

The epic work *Silappathikaram* is unique in several respects. The theme of the epic belongs to Tamil land and it does not preach religious bigotry although the allegiance of this work is basically Jainistic. The Sangam literary tradition is reflected here and there in this epic and the main characters do not belong to Jainism. The essentials of classical music and dance are dealt with in great detail and the folk tradition is adopted in several poetic compositions. "Only through *Silappathikaram* we can know about the form in which folk songs were sung in the historical past . . . . the love songs of fishermen, the songs in praise of Kaveri, the hunter's ritual music to goddess Kali, the dance music of the shepherdesses, the devotional songs of Tirumal and Murugan, the songs sung by women while playing ammanai in the Chera country, the rice-pounding songs, songs sung while rocking the swing and the songs in eulogy of Kings were utilised in the epic in the same form in which they were sung in olden days by people of different regions." (Varadarajan) *Silappathikaram* is a national epic integrating the three Tamil Kingdoms, namely, Chola, Pandya and Chera. It is also an outstanding document with literary merits and emphasising religious tolerance.

The latter period of epic literature (500-1200 A.D) is noted for epics of various religions and religious sects. Although the theme of *Ramayana* was taken from Valmiki's epic, Kamban wrote this epic in a manner that it was the original work in Tamil. The great poet brought about several thematic innovations in his masterpiece which are not found in Valmiki's work. Perunthevanar who wrote invocatory poems to several Sangam anthologies, wrote the Tamil version of *Mahabharata* which unfortunately is not available. There was another version of *Mahabharata* written during the 9th century A.D. which is available in fragments. The only version of *Mahabharata* available in full form is the one written by Villuputturar of 17th century A.D.

Devotional Poetry

The period of devotional literature is associated with the Bhakti movement which was at its peak during the period 600-900 A.D. Jainism and Buddhism were found widespread in the Tamil Nadu region during this period. The impact of these religions was such that Saivism and Vaishnavism, the two major sub-sects of Hinduism, came as strong forces to destabilise the former on Tamil soil. Vaishnavite and Saivite saint-poets travelled the length and breadth of Tamil Nadu pouring thousands of devotional songs. set to music. The four Saivites, namely, Appar, Sambandar, Sundarar and Manikkavasakar and twelve Alwars of Vaishnavism spearheaded the Bhakti movement. The message of *Thiruvasagam* appealed to the English Christian missionary, Rev. G.U. Pope, who translated the entire work into English. The poetic compositions of 12 Alvars being 4000 in number, were compiled under the title *Nalayira Divya Prabhandam* (Anthology of 4000 divine verses). This Vaishnavite anthology is considered to be the explication of Vedas in simple and lucid Tamil and it is for this reason that this collection is treated as Dravida Veda.

It is significant that women folk also were in the forefront of the Bhakti Movement. Karaikal Ammaiyar (6th Century AD), who hailed from Karaikal region of the Union Territory of Pondicherry, was the first among Nayanmars of Saivism who initiated the Bhakti movement. Earlier, her name was Punitavati and she was the wife of a merchant. Upon renouncing family life, she became an ascetic and came to be known as Karaikal Ammaiyar.

She composed three devotional works, namely, *Arputattiruvantati*, *Irattai mani malai* and *Mutta Tiruppatikam.*

Among Alwars professing Vaishnavism, the contribution of Andal to the Bhakti literature as also to Bhakti movement is exemplary. She was the adopted daughter of Periyalvar who was one among the 12 Alwars. *Nachhiyar Tirumozi* and *Tiruppavai* are the most significant works of Andal. The latter is a collection of thirty devotional songs composed in praise of Lord Krishna, incarnation of Vishnu. Even now *Tiruppavai* is being recited by Vaishnava devotees early mornings in the Tamil month of Markazhi (December-January). Apart from devotional excellence, the songs of *Tiruppavai* are well known for their poetic excellence and literary value. Andal belongs to the 7th/8th century A.D. The contribution of *Tiruppavai* to the Bhakti movement was such that Manikkavasakar, one of the luminaries of Saivism, in the 8th century was prompted to compose *Tiruvempavai* in praise of Lord Siva on the lines of Tiruppavai. Both *Tiruppavai* and *Tiruvempavai* are recited by Vaishnavite and Saivite devotees, respectively, in temples and also in the early morning on all the days in the month of Markazhi. It is to be noted that the devotional songs of *Tiruppavai* are being recited even by Telugus in Andhra Pradesh and Kannadigas in Karnataka. I am told that one has to read *Tiruppavai* in its original language to really enjoy the devotional excellence and poetic beauty of the compositions. Both *Tiruppavai* and *Tiruvempavai* became popular during the period of Imperial Cholas (9th to 12th Century A.D.).

Siddhas constitute a class by themselves and their contributions are unique. Among Siddhas, Tirumular was the earliest (6th Century A.D.) who wrote *Tirumantiram* in 3000 verses. Although they were Saivites mostly, they represented progressive forces transcending the barriers of caste and religion. They were basically spiritual seekers and employed folk metres in their works to convey their philosophy to common folk. The language of Siddhas was very simple with rich message.

Several metaphysical texts were written by erudite scholars for Saiva Siddhanta philosophy. Meykandar's *Sivananndapotam* is an outstanding work on Saiva Siddhanta philosophy explaining the triple truth of God, Soul and Bondage. Thayumanavar (1705-1742) was a saint-philosopher of the Saivite sect. It is said that he was able to reconcile with the conflicting philosophies of Advaita and Saiva Siddhanta. He introduced innovations in poetic forms based on folk tradition.

Modern Poetry

The linguistic and literary traditions of Tamil were such that the Manipravala style, which is a mixture of Sanskrit and Tamil, met premature death; even the renowned commentators well-versed in both Tamil and Sanskrit did not venture to write their commentaries in this style.

In the 19th century, the poetic contributions of Meenatchi Sundaram Pillai (1815-1876), Ramalingar (1823-1874), and Gopalakrishna Bharati are notable. Of these, Saint Ramalinga Adigal's 'ahimsa philosophy' represents the quintessence of our spiritual heritage. He decried all forms of violence and wanted to establish a casteless society based on universal brotherhood and advocated the worship of God in the form of Jyoti. He appealed to be compassionate towards all beings. It is interesting to learn that Islamic and Christian contributions to Tamil literature were substantial during this period. The noted Muslim poets were Umaruppulavar, and Kunankuti Mastan. Among Christians who contributed to Tamil literature were Viramamunivar, Pope Vethanayakam Pillai and Krishna Pillai. The Islamic epic, *Seerapuranam* by Umaruppulavar and Christian epics *Thempavani* by Viramamunivar and *Ratchanya Yathsrigam* by Krishna Pillai are significant poetic works.

The modern poetry in Tamil has branched into two streams, namely tradition-bound and anti-tradition. Both in form and content, the anti-tradition poems differ from the tradition-bound poems. More often than not, the content in new poetry is either opaque or suggestive. The day-to-day problems which the individual and society face constitute the subject matter of the new poetry whereas the tradition-bound poems are known for their rich poetic diction and rhythm.

The four pillars of modern Tamil poetry are Subramania Bharathiar, Kavimani Desika Vinayakam Pillai, Namakkal Ramalingam Pillai and Bharathidasan. Of these, Subramania Bharatiyar introduced several poetic innovations on the formal side based on folk metres. Bharathidasan, who was a disciple of Subramania Bharathiyar, was basically a social reformer and fought for maintaining the linguistic identity of Tamil.

To conclude, Tolkappiyar was the earliest grammarian who studied comprehensively the aspects of form and content of poetic literature of his period. Since then no attempt was made to analyse these aspects theoretically and the Sangam tradition has been lost with the passage of time. The survival of any particular literary tradition is governed by a literary theory. Taking this fact into account, Pondicherry Institute of Linguistics and Culture has taken up a project to compile and codify the poems published during this century. The project aims at formulating a literary theory to study the form and content of the poetic literature of the 20th century, and compiling the poems on that basis, content-wise and form-wise, into anthologies. The anthologies backed up by the literary theory will be an asset for future generations.

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ON TWO REMARKABLE BOOKS

Malcolm S. Adiseshiah*

Two books which impressed and influenced me were B.N. Ganguli's *Indian Economic Thought : Nineteenth Century Perspectives*, (Tata McGraw Hill, New Delhi 1976) and Bhabtosh Dutta's *Indian Economic Thought : Twentieth Century Perspectives* (Tata McGraw Hill, New Delhi, 1978).

To start with, both reflect the somewhat startling comment of the UNESCO Survey of Economics Research in the current century (Unesco: *Main Trends of Research in the Social and Human Sciences*, Mouton/Unesco, Paris 1970) : "Social Developments during the first decades of the twentieth century revealed the divorce between academic economic theory and reality. (The three realities referred to in this connection are : (a) the 1929-33 Depression, (b) the centralised economy of the Soviet Union, and (c) the short cut to development demanded by the newly independent countries.) Faced with these grave and urgent economic and social problems, economic theory had nothing realistic to offer, could suggest to effective way for improving the lot of millions of people". This comment about economic science the world over may be part of the answer to the riddle posed by Bhabtosh Dutta in the second book referred to above :—"the theories that were taught in the universities were available neat and readymade, in the standard textbooks of which Alfred Marshall was the leading light. But somehow the theoretical learning and analysis of applied problems of the country were kept apart." As one having lived in this twilight zone, I have expressed this dilemma between the teaching of and research in economics and our every day economic life even more bluntly in referring to the curious dichotomy for the economist in India at that stage (the thirties and early forties) of individual professional and national life, between thought and action, between the life of the mind and that of the spirit. Thus while on the one hand I was teaching my students the abstract and rigorous concentration on pure theory and static models, I was also engaged outside the classroom on the practical task of drafting a plan for the future industrialisation of the country, as well as in taking up the immediate challenge of developing a small rural development laboratory. (Malcolm S. Adiseshiah: *Let My Country Awake*, Unesco 1970).

The Two Books' Message

The two books by Ganguli and Bhabtosh Dutta on Indian economic thought in the nineteenth and early twentieth century showed me the basic commonality of Indian economic thought over this long period, because the Indian economists of that period which later came into use in the early twentieth century, started from the major and pressing features of the Indian economy and addressed their analysis and investigations to finding answers and solutions to the problems of the day that were raised. This common cement binding Indian economic thinkers in the nineteenth and early twentieth century—Raja Rammohun Roy, Mahadev Govind Ranade, Dadabhai Naoroji, RC Dutt, Satish Chandra Mukherjee, G Subramani Iyer, V Joshi and GK Gokhale—a bond from which the Indian economist after independence has been freed, was their undivided commitment to safeguard the economic interest of the people and the country against the alien government, whose major preoccupation was protection and furtherance of the interests of British investment and trade (the Lancashire cotton mills textiles versus the Bengal and Indian handlooms controversy), the safeguarding of the pensions and other repatriation costs of the serving and retired British personnel—civil and army—called the annual Home charges leading to the Annual economic drain, etc. I wish there was a similar consensus among the current generation of economists to safeguard and further the interests of the people—the majority of whom are poor—against the various forms of exploitation and injustices that they are subjected to by our own assets owing minority and their political following.

Economics and Gandhi

Both books—those of Ganguli and Bhabtosh Dutta, deal with what has come to be called Gandhian Economics. This brief expose' running to 15 pages in the two books, is one of the clearest that I have come across of Gandhi's thoughts on economic matters. These thoughts revolved around 4 points which were all derived not from any reading of any western economist, Adam Smith, Ricardo, Malthus, Mills, which all his predecessors and successors to this day in the economics domain have followed, but from his own introspection and first hand experience of the conditions of the poverty stricken Indian masses, particularly the rural masses and his close acquaintance with and reading of the writings of the non economist, utopian thinkers, Thoreau, Tolstoy and Ruskin. The four points of the Gandhian economic thought as summarised in the two books were :

Avoidance of mechanisation and encouragement of cottage industries, particularly spinning and weaving. In fact this first facet had also an open political angle, (a) in the call to wear only khadi and avoid mill made cloth, (b) which will ensure employment of our surplus labour, involving little social cost, and (c) use of the *charkha* by every one during his spare or idle time for spinning the yarn needed for one's own clothing. Hence the *charkha* became the central symbol in the flag of the national congress party, developed by him into a mass organisation. Ganguli refers to "the science of khadi" as envisioned by Gandhi, under which unlike in other industrial (mechanised) production, the prices realised return home to the producers who are the spinners. But even here Gandhi calls attention to defects that need and can be corrected, namely the low wages of spinners and the poor quality of their production. In contrast to the mill cloth producer who concentrates on cheapening production, the khadi producers must concentrate on justice and fair wage.

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Second, Bhabtosh Dutta points to Gandhi's emphasising the importance of rural small scale agriculture. He starts from the brute fact that the majority of our farmers have and will have 2 - 3 acres of land and so cooperation among them was the way forward. He believed that it would not be possible to improve the economic conditions of the millions of the rural poor without improved farming and the encouragement of small and cottage industries. He referred to Daniel Hamilton that labour and not metal is really money, and the cooperation of the farmers and farm labourers is part of his call for most work being done on a cooperative basis. If things are done on a cooperative basis, money would not be needed—atleast not on the scale which leads us to calculate M1 and M3 magnitudes today. Ganguli states that Gandhi's attempt to build a rural communitarian society adapted to modern ideas of rural cooperation and agricultural co-operatives and community service, but resting on our old traditional structure, purged of its existing evils, was for him true socialism.

Third Bhabtosh Dutta calls attention to Gandhi's principle making the village community as much self sufficient and self reliant as possible through decentralisation of the administrative and economic structure. This is where his concept of village *swaraj* blooms, his repeated warning that India lives not in Delhi or Calcutta or Madras but in her villages. Ganguli picks up this though and says voluntary cooperation, in Gandhi's words, will produce real freedom and a new order. The *Panchayat Raj* must be the basic unit of political and economic change. When *Panchayat Raj* is established, public opinion in the village will become decisive. Only the *Panchayats* can work through the laws of their own making, he points out. He had no doubt that any radical reform designed in the peoples interest, if it has to be given a statutory basis, must come from below. For him the scheme of decentralized production requires a large measure of decentralization of administration. And so for him a large part of planning could emerge from the grassroots and could be implemented by local bodies—the *Panchayats*. We seem to be going back to Gandhi's principle in all our talk for decentralization of planning and administration.

Finally, both Bhabtosh Dutta and Ganguli refer to Gandhi's programme to reduce the mass poverty of the people and counter the inequality of incomes, land and assets ownership. Both refer to his somewhat utopian approach to reducing poverty and inequalities. Ganguli quotes Gandhi : "the swaraj of my dreams is the poor man's *swaraj*, the poor man who has the right to get all the ordinary amenities of life. I have no doubt that *swaraj* is not *purna swaraj* until these amenities are guaranteed to all, particularly the last person under it. Unemployment and idleness must lead to bloody strife. *Khadi* is the only alternative to this. The socialism which India can assimilate is the socialism of the spinning wheel ... The Congress belongs to all, but the protection of the poor peasantry which forms the bulk of the population must be its primary interest." Dutta is critical of the Gandhian doctrine of trusteeship as a means of overcoming poverty and inequality. He says that the weakest part of the Gandhian economics was his faith in the good sense of the rich and the plan to establish the propertied and the business class as 'trustees' of the community. Gandhi's idea was that the rich man would preserve, protect, and use his riches as God's trustees for the people and that no compulsive redistribution measure would be necessary. Dutta points out that even as Gandhi was writing all this, there was no indication of any move by the industrial or landlord class to share their income or wealth with the needy. The trusteeship argument is untenable now as it was almost equally untenable in the 1920s. Dutta also refers to the latest attempt to secure a better distribution of land through the *Bhoodan* movement which also ended in a stalemate.

I have elaborated at some length on Gandhi's ideas and principles because among other reasons, except for the doctrine of trusteeship, we seem to moving back to his ideas as the solution to some of our current problems - the emphasis on the small sector in which we have also invented the tiny sub sector, decentralisation of planning and the emphasis on the *panchayat raj* institutions at the local level, the priority we are giving to agriculture and rural development et al.

The Major Economic Issues of the Time

To return to the two works, they show that there are certain unique economic categories which arose out of the economic system prevailing at that time— the nineteenth and early twentieth century. The economics of poverty, underemployment, state control and ownership, planning and development, industrialisation including the development of heavy industry, rural restructuration and agrarian reform, employment generating labour intensive occupation, exports, imports, national income and its components, distributional distortions—all of which are the warp and woof of the life of the Indian economist today but which have a continuous history from this period.

The concept of equality and balance of the two sides in any viable equilibrium model which is applied to the doctrine of comparative costs and freedom of trade, but rejected for colonialised India by the Indian economic thinkers represented by Raja Ram Mohun Roy is one starting point. From there the link was established between the unbalanced Indian economy and the deepening character of the poverty of its people which is the mark of the heart of under development, arising from the speculations of Subramania Iyer and Bankim Chandra Chatterjee leading on to a theory of rural communitarianism, making the village, its agriculture and small industry pursuits central to the country's development, which Gandhi later picked up and made central to his thought. The related analysis of the vicious circle, later termed as a low level equilibrium trap—of low incomes, low productivity, low employment, and growing under employment, low savings, slow capital formation, lack of enterprises and falling per capita income—was in the works of GV Joshi not inevitable, but traced to exploitative economic arrangements and social relations, including the unjust and unfavourable agrarian system of the economy. Arising from the analysis was Dadabhai Naoroji's concept of the "economic drain" with its mathematical formulation—which was the first application of mathematics to economic analysis in India —and its theory of agricultural surplus (the stacked terms of trade vis a vis rural areas) and the recurrent export surplus—which has overtones to our emphasis today on export oriented growth.

Parallely, Ranade's thesis of industrialisation emerged as basic to India's struggle against mass poverty, in contrast to the then ongoing deindustrialisation process at work—an industrialisation linked essentially to the processing of agricultural products that was needed to be aided, nurtured and supported by various forms of state aid and incentives. It was RC Dutt who outlined a theory of balanced industrialised growth, along side of a system of viable peasant proprietorship and assured tenancies. He adumbrated a theory of the economics of imperialism, which was remarkable in its historical sweep, empirical evidence relating to Indian public finance and public debt financing imperialist wars, the enforced decay of Indian industry and handicrafts through the excise duty on Indian textiles as against the free entry of Lancashire cloth, the excessive land tax, resulting in periodic famines and a per capita income of Rs. 2 against that of Rs. 42 for Great Britain and Rs. 48 for Canada. Gokhale refined the concept of national income as being not a statis quantum but as one of direction and varied composition. It was not the particular sum at any one time which was important, but the trend of the per capita income over time. Moreover the state of well being or ill being of a country was a composant of several indicators, among which he included population growth, per capita salt consumption (does this remind one of the later salt satyagraha of Gandhi), the area under agricultural production, the quantum of exports versus imports and per capita rural indebtedness.

Running through much of the analysis from the mid nineteenth century was the theory of and strategy for enlarging the domestic market, moving towards a degree of what we have come to call economic self reliance, which had its full flowering in Gandhi's *Purna Swaraj*.

Conclusion

So the two books provide a majestic survey enriched by analytical insights and technicity, reminding us, Indian economists, of the familiar names of the early twenties. K.T. Shah and Khambatta and their per capita estimate for the country at Rs. 74 in 1921, V.K.R.V. Rao's National income estimates in 1925-29 and 1931-32, Brij, Narain and Ranade's population studies, Radhakamal Mukherji's Food planning for four hundred millions, DR Gadgil's Industrial evolution of India, down to CN Vakil, Anjaria, Lakdawala and KN Raj. This rapid survey shows many high points and many gaps and failures. Unlike the period reviewed, the contribution of current Indian economists shows important forays into theory—of planning, of growth, savings and investments and development models. But all this are in a sense gap filling on the solid foundation laid by the thinkers in the nineteenth and early twentieth century, as referred to in this review.

The review of economic theory in the nineteenth and the first half of the current century is sparse in these books, with only eight economists addressing themselves somewhat at length to this fertile and unexplored arena. In addition to the reasons given for this rather unusual situation—unusual, given the penchant of Indian thoughts for abstraction and theory building—there was the overall constraint faced by Indian economists, which continues right down to the present day. Despite its nomethetic claims, from Mahadev Govind Ranade onwards Indian economists were uneasily aware that the economic theories and laws that had been developed despite their claim to universality were in fact generalisations arising from the capitalist industrial economic structures of Europe and North America, and as such could not be applied to the economic and social dualism or pluralism that characterised the Indian economy. What was missing in their work, which later economists in the country have attempted and are attempting successfully, is the necessary modification both in the premises and parameters of the theories in relation to the Indian reality. But even so, we are still a long way from the development of a comprehensive macro economic theory undergirded by micro economic analysis arising from Indian economic structures and relations. In that sense, Indian economic theory arising out of the Indian economy is still in its infancy.

But for the seminal contribution to our knowledge of the country's economy and early economists we are indebted to the two great economists of our times, B.N. Ganguli and Bhabtosh Dutta, to whom particular thanks are offered, and to whom this brief note is an inadequate tribute.

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Courts and Accountability of Universities

Some Recent Developments

S. K. Agrawala*

I

In 1986 was passed The Consumer Protection Act with a view to provide for better protection of the interests of the consumers. The general feeling may have been that the reach of this Act is only with respect to commodities of daily consumption. The Act, however, provides that it shall apply to '**All goods and services**'. The consumer has been defined, inter alia, as a 'a person who hires any services for a consideration...'. An occasion for a complaint arises 'if the services mentioned in the complaint suffer from any deficiency in any respect'. 'Deficiency' means any fault, imperfection, shortcoming or inadequacy in the quality, nature and manner of performance which is required to be maintained by or under any law or in pursuance of a contract, etc.

The complaint can be made by a person aggrieved, in writing, to a Consumer Disputes Redressal Forum (District Forum). The District Forum is presided over by a person who is or has been or is qualified to be a District Judge and consists of two other persons, namely, a person of eminence in the field of education, trade or commerce and a Lady Social Worker. Above the District Forum is the State Commission and above the State Commission is the National Consumer Disputes Redressal Commission.

It is extremely easy for a consumer of goods or services to file a complaint before a District Forum through a written letter addressed to its President. No court fees or appearance through an advocate is necessary.

In a case [O.P 11 of 1991 dated 10.5.91] before the District Forum at Tirunelveli in Tamil Nadu, the complainant was a young member of the bar at Tirunelveli. He studied law in the Law College at Madurai which is affiliated to Madurai Kamaraj University. He appeared in the BL degree examination in April 1989 after paying the necessary examination fees. In the result published on 23.11.89, he was declared as having passed the examination and a provisional certificate dated 7.12.89 was also issued to him. On the strength of this certificate he got himself enrolled as an advocate with the Tamil Nadu Bar Council on 10.1.90 and he started practice. On 6.3.90 the Madurai Kamaraj University asked complainant to return the provisional certificate for verification. The request was complied with. The University sent a mark list to the complainant dated 23.11.89 which disclosed that the complainant had failed in BL II degree examination. It was received by the complainant on 2.4.90. He informed the Bar Council of Tamil Nadu, suspended his practice and returned the enrolment certificate as required by the Bar Council. He applied for revaluation to the University and paid the prescribed fees in April 1990. He was informed that he had passed in the revaluation. A new provisional certificate was issued to him on payment. He informed the Bar Council accordingly and resumed practice in July 1990.

He filed a complaint before the District Forum, Tirunelveli that due to carelessness, recklessness and negligence on the part of the University authorities, he was put to pain, financial loss and suffered mental agony and loss of reputation. He claimed a sum of Rs. 88,870/- for loss sustained on various heads but confined his claim to Rs. 25,000/- only. He also sought a direction from the District Forum to the University to correct the date of provisional certificate issued by them subsequently as 7.12.89 instead of as 18.6.90.

The University took the position that the complainant was not a consumer within the meaning of Section 2(1) (d) (ii) of the Act and the services rendered by the University do not come within the ambit of services as defined in the Act. The University also contended that provisional certificate is only a temporary document and is not a final record or proof and that the complainant ought not to have enrolled himself on the basis of the provisional certificate. It was further added by the University that it was due to a computer error that he was declared pass in the results published on 21.11.89 though he had not secured the minimum marks essential for passing the BL II course. The mistake was subsequently detected and the provisional certificate was withdrawn. It was found, however, that in revaluation

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he secured more than minimum marks and was declared pass. There was thus no deficiency of service or carelessness on the part of University authorities and the complainant was not, therefore, entitled to any claim.

The District Forum, however, held that there was deficiency of service and directed the University to correct the date of provisional certificate as 7.12.89. It also directed the University to pay compensation of Rs. 5,000/- in lump sum without specifying the heads and awarded cost in the sum of Rs. 250/-. Against this order, the University filed an appeal; and at the same time the complainant also filed an appeal against the quantum of compensation awarded, before the State Consumer Disputes Redressal Commission, Madurai. The Commission delivered its judgement on September 30, 1991. [A.P. No. 92 of 91 and A.P. No. 122 of 91].

The points canvassed before the State Commission, inter alia, were :

(a) Whether the complaint was maintainable ?
(b) Whether there was any deficiency of service or negligence on the part of the University authorities ?
(c) What was the compensation, if any, to which the complainant was entitled ?

On the first point, the main argument on behalf of the University was that it is a statutory body imparting education as part of the sovereign functions of the State and is not rendering any service within the meaning of Section 2(1) (O) of the Act. It defines service as :

> "Service of any description which is made available to potential users and includes the provision of facilities in connection with banking, financing, insurance, transport, processing, supply of electrical or other energy, board or lodging or both, entertainment, amusement, or purveying a news or other information, but does not include the rendering of any service free of charge or under the contract of personal service."

Section 1 (4) lays down that the Act applied to 'all goods and services', save as otherwise provided by the Central Government by notification. The State Commission pithily observed that :

> "Universities are the centres of education and they provide one of the most essential and important services to the citizens of the country namely education. They prescribe several courses of study, conduct examinations and award degrees. They collect fees for allowing the students to sit for examinations, for issuing provisional certificates and final degrees at the time of convocation. The fact that the universities are statutory bodies does not in the least render their services, any the less 'services' as defined in the Act... A student who sits for the university examination and pays the necessary fees therefor certainly hires the services of the University for consideration and is a consumer within the meaning of section 2(1) (d) (ii) of the Act."

On the second point, the State Commission observed that the facts of the case did not admit of any doubt or dispute. The University explained its mistake thus. The BL degree examination consists of four Divisions and a candidate has to secure a minimum in each Division and a total minimum of 320 marks. On the first valuation the complainant had secured 96 marks in the II Division, that is in BL II, while the minimum is 105. He was given 8 grace marks as per rules which took his total in the II Division to 104, still falling short by one mark, but the total of 312 marks which he had secured got raised to 320, which was the total minimum. It was averred by the University that computer, taking into consideration the aggregate total of 320 marks, declared him pass without reference to his failure to secure the minimum in the II Division of the BL course. The State Commission held that this is clearly a deficiency and amounts to negligence. The persons incharge of computers have to check the figures and the results given by the computer and the failure to do so had resulted in declaring the candidate as pass in the results announced on 23.11.89. There was the further question of improper valuation at the first instance. On revaluation he got 9 marks more than the original valuation and therefore passed the degree examination without even the need of any grace marks. The fact that in the revaluation he secured more marks postulates that the original valuation was erroneous. Obviously the original valuation had been done in a haphazard manner and it was the revaluation which set the matter right. The contention on behalf of the University that the complainant had passed only in the revaluation and that it cannot be said that there was any deficiency on the part of the university authorities, had no substance whatsoever. Had the original valuation been done properly, none of the subsequent steps that became necessary would have been required. This is, therefore, a clear case of gross deficiency of service and negligence on the part of the examiners of the University for which the University is liable.

As regards, the quantum of compensation, the complainant had suffered a loss to the tune of Rs. 88,870 on various heads but had confined his claim to Rs. 25,000 only. The argument that the complainant should not have acted on the provisional certificate and got himself enrolled and practice, observed the State Commission, came with ill grace. The provisional certificate is as good as the final degree certificate and it is issued to obviate the delay in the issue of the final degree certificate. It is done only at the time of convocation. The District Forum has found that the complainant had suffered loss of reputation, mental pain and agony and had spent several sums of money for rectifying the mistakes and awarded him a sum of Rs. 5,000, and cost to the tune of Rs. 250. The State Commission considered the amounts to be rather meagre. The complainant had claimed Rs.1800 as expenses for journey, fees etc. The State Commission awarded him Rs.1,000 as compensation on this count which they thought would be fair and just. The Commission also observed that the complainant had suspended his practice from April to July, that is for a period of four months. Complainant claimed Rs. 6,000 as loss of earning. The State Commission awarded Rs. 500 p.m., that is Rs. 2000 on this count. By way of legal proceedings, cost of Advocate, notice and postal and typing charges, since no records were kept, nothing was awarded by the Commission on this count. The Commission also held that the complainant had certainly suffered loss of reputation and mental agony and awarded a sum of Rs. 7,500 as compensation on this count. Thus an amount of Rs. 11,145 was ordered to be paid by the State Commission instead of Rs. 5,000 as ordered by the District Forum. The date of provisional certificate was directed to be changed to 7.12.89, that is the original date of issue of certificate.

It may thus be seen that through such a simple procedure as filing a written complaint to the District Forum, without any stamp duty, the University authorities can be made to account for their lapses and be made to pay substantial compensation for change of marks in a single case of revaluation. For loss of reputation, mental pain and agony (to which every candidate is exposed in a case of revaluation), the State Commission in the instant case, had awarded Rs. 7,500 as compensation. That the University rendered 'services' within the meaning of the Act e.g., in examining and re-examining candidates, issuing degree certificates etc., has been well brought out in the judgement of the State Commission. The universities cannot hide behind the veil of being a statutory entity performing sovereign functions. When the universities are taking to computers and the examination results are being increasingly computerised by more and more universities, the candidate cannot be taken for a ride on the ground that there has been genuine computer mistake. This is an obvious deficiency in the services rendered.

In universities where the marks change in a large percentage of cases on revaluation, or the award list supplied to the students carries wrong entries, to the discomfiture of the students and to their great loss, anxiety and pain, it can be well comprehended what the total compensation could be that they can be called upon to pay in case they were hauled up before a District Forum.

It may be noticed that the setting up of a District Forum in each district is mandatory for each state. Late last year (in October, 1991) the Supreme Court issued contempt notices to the Secretaries responsible for consumer affairs in eight State Governments for not complying with its orders specifying a time limit for constituting consumer disputes redress fora in all districts. According to official statistics, 27 State/Union Territory level Commissions and 325 district fora, besides the National Commission, are functioning presently.

The judgement, thus, is a landmark, opening up possibilities for impleading the universities and colleges through extremely easy procedures and for holding them financially accountable in cases where there are deficiencies in the services rendered by them. It is like a writing on the wall for the universities and colleges to streamline their procedures and improve the quality of services which they render to the students and the community, to perfection or else be prepared to account for the same, to the fora set up under the Consumer Protection Act, 1986, and pay through their nose, as if.

In another case, (see The Hindu, Madras, 11 Nov. 1991) the Coimbatore District Forum, in November 1991, awarded damages to a correspondence course student to the tune of Rs. 28,000 against the Institute of Correspondence Education, University of Madras, and also directed the Institute to publish the result of the student and issue him marksheet before November 20, 1991. The complaint was that though the student M.K. Sivakumar, had successfully completed his first year course in M.A. Economics between June 1989 and May, 1990 and had paid the entire tuition fee, he was served with a notice on July 30, 1990 by the Deputy Director for MA mentioning that his statement of marks was withheld because of tuition fee dues. The candidate wrote to the Institute explaining that he had paid the entire fees, but there was no response to the letters written by him between August 20, 1990 and March 27, 1991. He sent a notice to the Institute holding it liable for the loss caused to him because of the withholding of the MA final result. That also did not evoke any response. He then preferred a complaint before the District Forum and requested for compensation of Rs. one lakh as damages and seeking direction to the Institute to release the result. The Institute did not respond to the notice of the Forum even. The District Forum recorded the absence and the case proceeded ex-parte. The Forum considered the contention of the complainant that the Institute had caused a set back to his career and loss of earning, to be well founded and felt that the Institute should not play with the life of a youngster like this. The Forum considered compensation at the rate of Rs. 2,000/- per month for the last 14 months, as reasonable and directed the Institute of the University of Madras to pay Rs. 28,000 as damages to the student and Rs. 300 towards the costs. It also directed the Institute to publish the result of the complainant and issue him the marksheet by November 20, 1991. The Forum also warned that if the Institute failed to carry out the above orders, it would result in suitable penal action.

It may be noted that the District Forum has been empowered under the Act, as regards deficiency in services, to issue an order to the opposite party directing him to pay such amount as may be awarded by it as compensation to the consumer for any loss or injury suffered by the consumer due to the negligence of the opposite party [Sec. 14(1) (d)]. If a trader or person fails or omits to comply with any order made by the District Forum etc., such trader or person shall be punishable with imprisonment for a term which shall not be less than one month but which may extend to 3 years or with a fine which shall not be less than Rs. 2,000 but which may extend to Rs. 10,000, or with both (Sec. 27).

It may thus be seen that the District Forum can make the universities and its institutes or colleges accountable for negligence in not replying to correspondence by consumers of its services, in sending letters demanding payment of fees and dues when they have already been paid, and thus causing a set back to the career of the candidate and loss of his earning capacity. The District Forum can also proceed ex-parte in case the university or its institute disregards the notice issued to it. The order of the District Forum can be enforced through penal action which may extend to imprisonment upto 3 years or fine upto Rs. 10,000, or both.

There would certainly be several decisions of this genre against the universities and colleges delivered by the District fora, State Commissions and National Commission, which are required to be researched and brought to public knowledge.

II

A still more significant development has occurred in which the Calcutta High Court in *Tripura Sankar Chell* v. *University of Calcutta* [C.O. No. 6469(W) of 1990] directed the University of Calcutta, on October 9, 1991 to pay Rs. 25,000 as damages to a candidate who had appeared in the final LL.B. examination for the year 1987 held in 1988, for the "criminal negligence" in not assessing some of his answers in one of his answer-books and declaring him fail.

When the result was announced the petitioner got a total of 268 marks, 2 marks short of the required aggregate of 270 marks in order to pass. The candidate applied for re-examination of his answer scripts in two papers and paid the requisite fee. Had the candidate got 269 marks (instead of 268), then automatically one mark would have been allotted as grace mark and he would have been declared pass. On 15th November, 1990, he was informed by the University that on re-examination, there had been no change in his result. On a representation being made by the petitioner's advocate, he too was informed on 2nd April, 1991 by the University authorities that no marks were enhanced on re-examination.

On the High Court being moved in this regard, on 24th July, 1991 the High Court passed an order directing the Controller of Examinations to produce the two papers before the Court to enable it to satisfy itself as to the fairness and reasonableness of the re-examination of the answer scripts. On 21st August, 1991, the Court perused one of the papers and it was prima facie found that certain questions were not at all given marks though the answers were contained in the answer script. The court directed the Vice-Chancellor to appoint an expert of the subject to examine that paper and see whether any question-answer had been left un-marked and if that was the case, the appropriate marks be allotted to the answer(s) and calculation made accordingly. The University was directed to produce the report of the Vice-Chancellor alongwith the notes of the expert as also the answer-script of that paper, thereafter.

The revised mark sheet allotted 42 marks out of 100 in the paper concerned instead of 36 marks earlier given when the petitioner was plucked. The matter came up for hearing before the High Court on 26th September, 1991. The Court was informed that a retired judge of the Calcutta High Court, who was appointed by the University to re-examine the answer-book, had reported that marks were not allotted to certain questions which the candidate had answered in full and he revised the aggregate to 42 marks. The Vice-Chancellor, while ordering the recalculation of marks and issuing the revised marksheet, had also noted that action be taken against the concerned examiner, head examiner, re-examiner and the scrutineers.

The High Court noted with emphasis that on two different occasions the Assistant Controller of Examinations of the University had reiterated that no marks were enhanced and that there was no change in the result. But when the Court directed the Vice-Chancellor to appoint an expert for the examination of one of the papers of the petitioner, the examiner who was a retired judge of the Calcutta High Court squarely held the examiner responsible for his failure to sincerely, correctly and rightly examine the paper concerned. The Court also held that the candidate had suffered mental anxiety, depression and insult of being an unworthy student since the declaration of his result. Had he been declared successful, he would have put in about 2 1/2 years of legal practice before a subordinate court or in the High Court, he could have appeared at the WBCS (Judicial) Examination for selection as a Munsif and might have succeeded; he could have appeared at the other competitive examinations or might have got an employment in any multi-national organisation or other good establishment, which would have made his career a prosperous one. He had been deprived of the aforesaid chances by the "sheer negligence and deliberate insincerity" on the part of the authorities of the Calcutta University. The Court also observed:

> "The High Court in its writ jurisdiction has ample-extraordinary powers to serve the needs of the people as well as the needs of the society. The Court must keep pace with the heartbeats of the people and their needs and aspirations. It is for the judiciary to uphold justice and to implement it properly so that the victims must feel that justice has been done, not symbolically but practically".

The Court, therefore, thought that the damages must be paid to the petitioner for the way the Calcutta University behaved with him in examining one of his papers with utter negligence. The Court awarded compensatory damages amounting to a sum of Rs. 25,000 and directed that they be paid by 31st December, 1991, and that the time limit be maintained strictly. The Court also directed the Vice-Chancellor to take appropriate action against the concerned erring examiner, head examiner, re-examiner, scrutineers and those who were in any way responsible in connection with this matter.

The Court also passed strictures against the University and observed :

> "The Court strongly deprecates the conduct of the authorities of the University of Calcutta and the method they have adopted in not redressing the grievances of the examinee even after repeated requests and prayers. Once the Calcutta University was the premier University in India but today, one is sorry to say, it has lost that premier status and has come down considerably. This weakness in the administration of the University indicates inherent lack of control by the top officials of the University over their subordinates who are comfortably slipping out of their control because of inadequate vigilance and rampant indiscipline".

This judgement is significant for several reasons, namely :

(a) The Calcutta High Court has reiterated that the writ jurisdiction of the High Courts is much too wide in its amplitude and in the exercise of that jurisdiction it has ample extraordinary powers to provide justice to the parties as demanded by the circumstances of the case;
(b) On this principle, the Court virtually sat in judgement over the valuation of the answer-scripts by the University, which it does not normally do;
(c) The Court awarded damages to the petitioner which the High Court does not normally do in exercise of its writ jurisdiction;
(d) The High Court directed the University to take appropriate action against the erring persons who were associated with the examination, re-examination, scrutinizing the answer-scripts and the declaration of the result, etc., etc.;
(e) It passed strictures against the University of Calcutta as regards the redressal of grievances of students by it.

The judgement goes to highlight, as nothing else, that the High Courts would exercise their powers and jurisdiction to the maximum and provide relief to the complainants in the shape of compensatory damages in case the universities did not respond to the complaints and grievances of the students and others conscientiously, diligently and with due care. For being able to do this, it is absolutely necessary that the universities first lay down detailed rules and procedures on all matters including examinations, re-examinations etc., etc. It is also necessary that proper machinery be set up by the universities for going into the complaints and grievances of students and others ensuring the observance of the principles of natural justice. A model for the same has been suggested earlier in an article "Dispute Settlement Machinery in Universities and Colleges" published in *University News*, dated June 17, 1991.

Besides paying compensatory damages, the University of Calcutta had been directed by the High Court to take appropriate action against the erring persons involved in the case. From this it is only a small step forward, for the Court to say that the action taken by the University authorities be reported to them by a specific date. The High Court would be within its rights to do so in order to ensure that its order is properly implemented. It has done so in a number of cases relating to public (social) interest litigation.

A still further short step is possible; and the Court could direct that the compensatory damages awarded by it should be the liability of the erring individuals themselves which may be apportioned by the University amongst them according to their share of negligence in the matter involved. After all university is an amorphous entity; it could only function through its officials and other functionaries. The action in compliance with that order could again be directed by the Court to be reported to it by a specific date. These possibilities of interpretation, application and extension of the law by a conscientious court, in an environment wherein nothing seems to work, have to be taken seriously and with urgency by all those concerned with the administration of universities. It would be sad indeed if instead of the universities and its functionaries evolving their own models and machineries of accountability, monitoring and assessment, they are compelled to act on the directions of the Courts.

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Arun Kolatkar's 'Jejuri' : A Perfect Balance

L.S. Deshpande*

Arun Kolatkar's Jejuri is a poem remarkable in many ways : it is complex in terms of theme, characterization and imagery. Its structure is as much symbolic as mythological and naturalistic. Its most striking qualities are ambiguity and multivalence, the one relating to its tone and the other to its meaning. But what impresses one, at the very outset, is its miraculousness. Looking from ontological viewpoint, the poem may, perhaps, be found to best illustrate what Ransom calls "metaphysical poetry", of course, in his highly individualized, special sense.[1]

The poem begins with "a daybreak", as though to awaken your sceptical mind to "a few questions knocking about in your head". And, at the twilight hour, Kolatkar catches you unawares stopping "half-way "between "the temples" of Jejuri on the one hand and "the railway station" on the other. The protagonist stands, as it were

> *"Like a needle that has struck a perfect*
> *balance between equal scales*
> *With nothing left to add or shed."*

The phrase "a perfect balance" is, in my view, of seminal value and is, as such, a key to the thematic structure of the poem. It may, thus, be seen as the open sesame to the world-view presented therein.

The poem pretends to be sceptical, but is not actually so. It is neither theistic nor atheistic in tone as unfolded at times in our study of its diction, style and imagery. It is the "cold wind" that whips the protagonist, Manohar, on his way to Jejuri. And, surprisingly enough, "the altar" from where the priest is waiting for the pilgrims is also "cold". The bus that takes him to Jejuri stops in the bus-station, "purring softly" with pilgrims "held between its teeth" in a catlike manner.

The roof of the temple is shown in its ruins and is likely to crash down on Maruti's head any moment. The dilapidated condition of the temple is likewise shown as resembling "the broken tile" that clicks and that of the protagonist's mind as resembling the heart of "the dung beetle" which, terror-stricken, runs helter-skelter for safety beneath "the broken collection box". But, ironically enough, nobody seems to mind the temple's condition-neither the mongrel bitch and her puppies nor Maruti himself. And, finally, comes the paradoxical couplet inhering ambiguity that characterizes not only the verbal but the meaning structure also of the poem :

> *"No more a place of worship this place*
> *is nothing less than the house of god."*

A complex situational incomprehensibility seems to grip the poem at several points. That is why the poet makes a statement of tentative nature that invites the reader's attention and merits a rigorous scrutiny on his part. It is not just tentative; it is bipolar, too, in terms of its thematic relationships that bring out the significance of the protagonist's "divided face" reflected in the pair of glasses on the old man's nose. The poem offers a series of blurred images indicating neither the protagoinst's total acceptance nor his total rejection. That is why what appears to be a temple's "door step" is actually a "pillar" lying horizontal "on its side", implying a confusion, although a momentary one, between appearance and reality. Earlier, too, the protagonist does not, or rather he feels that he need not, "step inside the old man's head", for the venture is feared just futile: it is not worth it. It is so uninspiring and so irrelevant, too. The old man's head, thus, signifies vacuity or stereotype orthodox consciousness.

After the protagoinst crosses the door step, already referred to, he sees two things: one a brass mouse with "a broken neck" and the other "a dry water tap", echoing Eliotian diction in *The Wasteland and other Poems*.[2] His eyes then fall on a door which is hanging on just one of its hinges to look like Christ on the Cross. The epithet "dangling" preceding "martyr" speaks volumes as much of the paradoxical note that pervades the poem as of the poet's secular, if not a little cynical or irreverent, attitude.

The three 'Chaitanya' sections, sparse though they are in different parts of the poem, bring unity to the poem and place it rightly in the poet's intentionalistic focus. Chaitanya Mahaprabhu, the sixteenth century Vaishnava Saint, may also be seen as a persona through which the poet speaks and, as such, may be said to represent the poet's voice, for they both share the identical consciousness despite the centuries of difference between their respective periods and life-styles. He visits the place while on pilgrimage and finds the stone besmeared too much with red paint and will like to see it rid of the excess of it. This dropped-off red paint is exactly what "the indicator" in the final section resembling "a wooden saint" needs. The stones of Jejuri are, in his view, "sweet as grapes". He pops a stone in his mouth and spits a god out. As Chaitanaya comes, so he goes off without doing or undoing anything to the legends which, like the grazing

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cattle, raise their heads as the saint appears on the scene and return to their grazing as he disappears from there.

The protagonist now visits a low temple where gods live in a dark corner and can appear only in the light of a matchstick. Whether the goddess there has eight arms or eighteen is open to question as is indicated by the sceptic match's cough. This is the first jolt that the protagonist's consciousness receives, for he sees her eighteen armed, whereas the priest insists that she has just eight arms. Thus the protagonist's integrity is juxtaposed here with the priest's hypocrisy, the former's simple consciousness with the latter's intellectual cunning.

Then comes the myth of 'The Horse-shoe Shrine". The shrine is located somewhere between the two sides of the hill. "The nick in the rock" is actually "a kick" left by the blue horse's hoof. Khandoba's riding together with his wife on the horseback looks like "a spark" rising from a flint to conflagrate his home on the hill's other side that resembles "a hay stack". This is how the myth despite a dig at it, finds its best expression in terms of visual images presenting a graphic picture of Khandoba's heroic adventure.

Manohar, the protagonist, enters a door, expecting one more temple inside, which, surprisingly enough, turns out to be "just a cowshed".

The old woman waiting there offers to lead him to the horseshoe shrine, already referred to, for a fifty paise coin. She gets hold of his sleeve sticking to him "like a burr". He is vexed at the "farce" and will like to put an end to it by giving a violent turn to his side, but the pathetic words come:

"What else can an old woman do
On hills as wretched as these?"

Thus the poet works at a lovely, memorable portrait in words of the old woman in all her wretchedness—her face being skylike, her eyes bullet-hole-like and the wrinkles around them cracklike. As a result, the protagonist's indifference is dissolved into her wretchedness, for the poet imaginess that

".....the hills crack,
And the temples crack,
And the sky fallls."

But the withered woman stands in her misery, all "alone" and, with both feet firmly planted on the ground, "shatterproof". And the poet pricks the inflated balloon of the protagonist's egotism and brings him the sad realization that he has been :

"........reduced
to so much small
change in her hand".

Then the priest's son comes forth to tell you of another myth of Khandoba's having killed the five demons that appear transmuted as five hills. Sensing that there is in your head a question as to the veracity of the story, he looks "uncomfortable" but draws your attention towards "a butterfly" in and around " a scanty patch of scruffy dry grass", suggesting that living beauty is more interesting, and more relevant, too, than sheer scepticism. The yellow butterfly, living neither in the past nor in the future but just in the present, symbolises enternal, existential life. The pretty, little creature is said to enfold the five "wretched hills under its wings" which, although apparently just a hyperbole, is but, with a little stretch of imagination, discovered to be a striking image with such a remarkable naturalistic precision. The exquisitely poetic image, thus, marvellously explodes the myth of Khandoba's heroic feat inviting the reader to share as much in the poet's sense of beauty as in his sceptical spirit.

There is one more attempt, on the poet's part, at demythification. Khandoba, once in a fit of anger, struck his wife down with his broadsword. The huge, hard rock, which is, at once, giantlike and bedroom-sized, (Look how the poet mixes, in his use of the epithets, the conventional and the novel, the traditional and the modern, the fantastic and the realistic), is depicted as Khandoba's wife and the crack on the rock as the scar left by the broadsword's smashing stroke. That is why the poet seems to be almost convinced, but not entirely without reservation, that the dividing line between stone and god, "if it exists," is "very thin" at Jejuri.

We have, then, a folktale—that of Ajamil, the shepherd and the Tiger-king—which may entirely be the poet's own invention as indicated by Prof. M.K.Naik.[3] Despite the fact that the fable looks like a patch in the total fabric of the poem, the poet's imagination works wonders here in mixing the realistic and the fantastic elements in the narrative for his poetic purpose. The poem takes on a new dimension here, that may be related to an international political crisis, on a symbolic level. It brings out two things: First, Ajamil may be seen as a shrewd but benevolent dictator living contentedly with his invory tower existence, and, secondly, the principle of "live and let live" needs to be rigorously enforced, if not wilfully acceptable, to make the world safe for peaceful co-existence.

It is through the two songs—one for Vaghya and the other for Murli—that the poet is seen not only exploiting old myths but creating new ones also. It is through the Vaghya's persons that the poet's authentic voice, that of faith, is once again heard. Apart from being sincere and heartfelt, it is ambivalent and resembles W.B. Yeats's in the 'Easter 1916'. The poet says :

"Khandoba's temple rises with the day
But it must not fall with the night."

That is why the Vaghya lights the flame, burning the oil collected from door to door in his can.

'The reservoir' tells us, of course, symbolically how history is defunct, being devoid of any content. It has no "water', that is, truth but just "silt", that is, myth.

The following section is 'A Little Pile of Stones'. It symbolically suggests how one needs to put in one's best efforts to organize life in a planned manner even in the midst of a more or less hostile situation. Luck smiles on those who choose to stand in good stead despite the "too uneven" ground and "too cold" wind.

'Makarand' is a section of great significance in the thematic structure of the poem and is central to its dialectics. The persona of Makarand, as evidenced in the opening stanza of the section, and also as rightly pointed out by Prof. M.K.Naik, is the protagonist Manohar's "alter ego"[4] and, as such, represents sceptical, if not semi-schizophrenic, condition of his mind, which is torn between faith and lack of it, suggesting an ambivalent system of values born out of his existential notion of freedom: there is choice, now, between performing "pooja" in the inner shrine and smoking a "cigarette" in the outer courtyard of the temple, but we are left to conjecture whether he has exercised it until we come to know of the coconut carried in the protagonist's hand in a later section.

Kolatkar's imagination runs riot in the two succeeding sections entitled "The Temple Rat" and 'A kind of a Cross', both dealing with the animals: one live, the temple rat, and the other a stone image, that of the holy bull calf. As usual, the meaning operates in both on symbolic as well as naturalistic levels. The little rat's timid movements and furtive look are brrought in sharp contrast with the warrior god's "mighty shoulder" and "fierce eyes". The temple rat's eyes meet "the trace of a smile" in the priest's face concealed beneath his "grey, week-deep beard" before it disappears behind the big temple drum hearing the bell's sudden, reverberating sound. Similarly, the holy bull calf is shown as seated near the stone image of "the twenty foot tortoise" on a pedestal in the open courtyard with his tail turned upward against "the strange instrument of torture". The poem's success, thus, consists chiefly in the poet's working at the details of the details, besides imagery.

The image of the 'cupboard' in the section entitled so is more revealing than can be imagined and, as such, brings out the protagonist's secular, sophisticated, and materialistic attitude. That is why gods, just because they are made of gold, are locked safe (?) inside the cupboard with "broken glass" with strips of old, yellowed newspaper stuck on it. These strips carry stock exchange quotations, editorials, advertisements, etc., suggesting our so-called modern ways of living a life that has no purpose or meaning beyond itself.

'Yeshwant Rao' whose place is just "outside the main temple" is humorously described as "only a second class god". The long passage on commercialization of gods and religion is a harangue exposing the travesty made of those supreme manifestations of man's highest conceptualizing imagination. The protagonist's distaste of these gods is made explicit, when he calls them " either too symmetrical or too theatrical". If at all Kolatkar "debunks", as he is said to, any gods, it is these false gods only.[5]

Compared to these so-called fake gods, Yeshwant Rao is, in the protagonist's view, far superior. He is "a mass of basalt" with no arm, leg or head. Paradoxically enough, he is "a kind of bone-setter". A god "with understanding", he sets your body "whole" in the hope that your "spirit" will look after itself, testifying to the truth of the maxim : "A sound mind in a sound body".

The section entitled "The Blue Horse", already referred to passingly in "The Horse-shoe Shrine" depicts the three sketchy but brilliant pictures—those of a toothless female singer, a fallen faced drummer and his pock-marked half brother, whom the poet calls, quite exquisitely, "God's own children making music ?

It is here, for the second time, the protagonist's consciousness is given a jolt for what the singers are singing of is a blue horse, but the picture on the wall shows it white. When asked about it, the priest simply answers : "Looks blue to me" and comes forward to point to the blue shade all along the underbelly of "the noble animal". The singers' consciousness is thus found in close proximity to the priest's, but the protagonist's widely distanced from theirs. What the protagonist's consciousness lacks is faith and conviction without which a pilgrim tends to become a tourist and the precincts of a temple the environs of a holiday resort. A note of despair (and disappointment, too) is perceived when, in the concluding line of the section, the poet shows the tambourine beating its breast. The use of the expressionistic symbol singificantly projects the protagonist's sceptical attitude towards religion, myth and god.

In the penultimate section of the poem entitled "Between Jejuri and the Railway Station', we are shown the priests' houses "huddled" at the hill's foot, along with the temple dancer's house at its end. The priests are said to owe their prosperity to "one skill", while the temple dancer to "another", suggesting that both are indiscriminately bad. The priest's son has the right kind of (that is, conscientious) consciousness hidden in his apparently conventional mind, for he knows the truth but is nurtured so as not to give it out.

The street ends and the protagonist leaves the town behind and is on his way to the railway station. And, with a few questions knocking about in his head, he stops 'dead' halfway between the temple at Jejuri and the railway station. He stands "still" like "a needle in a trance". Mark how vividly the "needle" and "trance" have been conjoined together to indicate the dilemma of the so-called educated mind. The "divided face" of the poem's opening section shows itself here in the two equal scales of religious faith and rationalistic temper between which the needle strikes" perfect balance." This is the only point where the poet casts off his so-far-protected mask of indeterminate focus so as to reveal the real predicament of contemporary man, that of a conflict between belief and non- belief, between faith and scepticism, between tradition and modernity, between the systems of old values provided by religion and of those new ones by science.

The answer to the predicament lies in the resolution of the tensions built so far. for what has stopped the protagonist is "the sight of a dozen cocks and hens in a field of jowar in a kind of harvest dance", signifying, as rightly brought out by Prof. M.K.Naik, "a Life-principle in Nature".[6] We are reminded how, by diverting his attention to "the butterfly" earlier, the priest's son has tutored him in this respect. Rapt in the craziest dance, he is reminded of his silliness in carrying the burden as it were of "a priest" on his left shoulder and of "a station master" on his right.

In the ultimate section "The Railway Station", Kolatkar resorts to intermixing religious and secular terms. The old, worn-out "indicator" is described as " wooden saint" needing a paint. Even the numerals on its clockface have eroded, reducing the total, quite significantly, to a "zero", exposing thereby insubstantiality of contemporary civilization. Likewise, the station dog embodying "the spirit of the place" is shown as "doing penance". The poet's tone is one of sarcasm, when he allows the dog to watch you to make sure whether you are a man, a demon, a demigod, or finally and quite absurdly, an eight-armed railway time-table to have come there to stroke his head with "a healing hand" before he dies.

The young novice at the tea-stall is obviously a waiter doing his usual chores but shown as though he were a recluse. The waiter is further described as not keeping mum but as one who has taken "a vow of silence". He does not readily respond to your questions but seems to rather "exorcise" you by sprinkling "dish water", instead of holy water, on your face. He is shown, finally, as performing his "ablutions in the sink", along with "certain ceremonies" of washing cups and saucers.

Again, like the protagonist's "divided face" reflected in the old man's spectacles, the station master, too, is described as "two-headed". He is said to turn red in "both faces" at once even at the least or no provocation and nod his heads to indicate neither a positive nor a negative response to the query made. His only obsession is to watch the sunset anxiously, as though it were a part of his "secret ritual" and fears that something could go wrong with it any moment.

The poem has an essential unity of its own : it begins with the rising sun and ends with the setting sun. The parallel rail-tracks seem to meet each other at a distance where they ultimately merge with the setting sun, which, appearing wheel-like, touches the horizon at their meeting point.

Arun Kolatkar's *Jejuri* is, thus, one of the best examples of what Eliot calls "impersonal poetry".[7] He is interested in presenting vistas and succeeds enormously in doing with his pen what a cameraman does with his camera, with no comments or opinions, with nothing of his own, to add to or delete from. It is superbly naturalistic with its rich symbolic structure. It marvellously explodes the myth not only of religion but of science also. It is keen more on showing than on telling. It is simply objective in this. It rejects the so-called false, superfluous claims of religion and science but at the same time upholds the real, genuine ones of humanity and nature.

There are three worlds simultaneously existing at Jejuri : the old, traditional world of Khandoba's temples and their environs representing religion and myth, on the one hand and the new, rationalistic world of Jejuri's railway station representing science and technology, on the other, and in between lies the existential, eternal and everrenascent world of life and nature symbolically inhabited by the mongrel bitch and her puppies, the dung beetle, the butterfly, the temple rat, the station dog, etc., which the poet holds more sacred than the other two. Humane and natural as it is, this world fascinates the poet more than the other two, for, in *Jejuri*, the natural is shown as prevailing over both the spiritual as well as the secular. Behind the two faces is concealed the true—genuine and natural—face. "The perfect balance" is the mental calm, or the spiritual equipoise, if you prefer, adoring the highest humanity and, as such, invites your attention not only to the harvest dance of the cocks and the hens but also to the hills, the stones, the butterfly, the temple rat, the station dog, and finally, to the whole day right from "the daybreak" to "the setting sun".

Arun Kolatkar is reputed to take his reader "for a ride" (to put it in his own words). However, the reader is convinced, as Dr. Vilas Sarang aptly remarks, that the ride is "most exciting".[8]

To sum it up, one may recall what Bertrand Russell said somewhere: "Obviousness is the greatest enemy of correctness."[9] And Arun Kolatkar's "needle" with its "perfect balance" seems, somehow or other, to point to that correctness.

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An Indian English Campus Novel

M.G. Hegde*

"To judge from my experience I should say that Harvard yields no good material for fiction"[1], writes George Santayana and the milieu of academic world has scarcely moved an established pen, with a few notable exceptions like Hawthorne, Nabakov, Santayana, Malmaud, Kingsley Amis and C.P. Snow. However, by now, both in America and England, the 'Campus Novel' has emerged as a sub-genre in fiction and its popularity has firmly established, though according to a survey 'the novel of academic life has fostered no Sophocles'[2] yet. As far as Indian English Fiction is concerned, the campus novel is still sparse : there have hardly been half a dozen university novels[3] (the earliest among them appeared in 1960) because very few men in the universities wrote novels till the 'Seventies. However, in recent years more number of academic critics joining the galaxy of creative writers, attempts have been made to portray the collegiate experience in India. Among these Prema Nandakumar's *Atom and the Serpent*[4] is perhaps the most representative one in the sense that it is comparatively more inclusive of different aspects of the multi-faceted campus life. Moreover, it is brilliant in its perception of the 'essential realities' of campus life in contemporary India with all its sourness and light, depression and hope. Mixing as it does satire and sympathy, irony and humour, oscillating between the past and the present the novel rises high above a mere documentation of the present state of our Groves of Academe.

Structurally *Atom and the Serpent* is neatly divided into five parts each part dealing with the experiences of each day on a provincial university campus of the visiting professor Dr. Kamalapati Vatsa of the Neutron Moderator Department, Atomic Institute, Bombay. Dr. Vatsa is as much a stranger to this campus (to any Indian university campus for that matter) as readers are and this facilitates the omniscient narrator to gradually unfold and introduce various aspects of the campus life. 'Then why don't you initiate me into a few of these secrets?', asks Mr. Vatsa in the beginning of the novel and by the end of his brief stay he is more than initiated into the 'open secrets' of the school for scandal. Not only to the school for scandal, he is also introduced to the school of scholarship and humanism which eventually chastens him and brings the best out of him.

There are obviously two strands in the story—one is that of the doomed campus life told with sarcasm and biting satire and the other is that of maladjusted marital life of Raj and Satya told with sympathy and understanding. The two strands unfold, run parallel at times, cross each other at other points and finally reach the climax simultaneously for a resolution, for an assurance that life is 'wonderful' all the same.

The central theme of *Atom and the Serpent* is indicated partially in the title and comprehensively in the epigraph:

> Trapped between the atoms twyfold terror
> And the speckled serpent's spue, hiss and bite,
> Ah, how sustain hope of saviour Grace ?
> Only patience, purgation and prayer :
> Beyond this darkest night, perhaps the Dawn !

Thus, though satirizing the campus politics is the immediate concern of the novelist, operating in a wider backdrop of the atomic age, the greater question of the survival and peaceful co-existence of mankind appears to be her ultimate concern. It is important to note that at various points in the narrative the major tools in power politics 'atom' and 'the serpent'—'Visha Mantra' and 'Visha Kanya'—are shown to be of equal threat to the physical as well as spiritual survival of man. While the struggle for power thus ends up in futility, the novelist celebrates the "Glory" of the great cultural heritage and the imperishable moral values for which this country has stood for ages as a 'Saviour Grace'. Only the power of the glory can lead one from 'darkest night' to 'the Dawn'.

A constant struggle for power at various levels is presented in the novel, the prominent among them being direct as well as indirect 'wars' between Dr. D.K. Adhyaksha, the present Vice-Chancellor, striving to retain his position and Dr. Dattatraya, Principal of the Applied Politics Department, striving to succeed the V.C. The eerie setting of V.C.'s Villa, the garden around ruled by grimness and the ancient buildings on the campus with their compartmentalised inner setting which are 'out of tune with the original architectural conception' apart from looking bizarre symbolise the intellectual and spiritual sterility of the inmates :

> Vatsa was chilled in his heart. It had all such a patched-up look, suggesting that the general decay had but been temporarily halted by these frantic attempts to keep the things going. "Just like what ouy educationists do for Higher Education ! " he mused within himself. (40)

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And the novelist by referring more than once to *Hamlet* reminds the reader of the rotten state of Denmark.

Well, then, on the campus there's the rotten politics for power which is capable of draining out the best in any man. The VC, for example, once a renowned scholar, is now but a 'Tribal Chief' struggling to keep in control vicious and barbarous tribals. 'Now the scholar was a memory, while the politician has become the reality'. (19) However, it is to the credit of the VC that he is the veritable Chanakya who is ever full of self-confidence; with his keen intellect and sharp memory could grasp the situation quickly and could turn almost every thing to his advantage with the least effort. And his acumen for 'divide - and - rule' oriented administration is made known at various stages. "You have a way, Sir", shrills his ardent enemy, "of making the other person look guilty" (12). His counter character Dr. Dattatreya, though is much inferior to Rakshasa of Vis'akhadatta's celebrated play in his humane qualities, equals Rakshasa in devicing strategies one after the other to trap the VC. Like Rakshasa, Dattatreya too is equipped with a hooded serpent—a 'Visha Kanya'. Sheela Rani, his wife, is more than a 'Visha Kanya' for Rani works on her own and bosses over her husband. A perfect stranger to conscience, she vilifies every body and fouls every nest not necessarily having a purpose in it. Almost every dramatis personae suffers this serpent's hiss or bite or both.

If the serpent, a tool operative in the campus politics, is the immediate danger to which every one on the campus is exposed to, Atomic power, a 'pawn in the power game of the nations' (164) is a perennial source of danger of which only few seem to be aware. Apart from Vatsa, a direct victim of atomic radiation, it is only Dr. Rajeswara who regards it a 'Visha mantra', a threat to human existence. Dr. Yaugandharayana, heading the Atomic Research Department, is not bothered of it; for him nuclear energy means 'simply cooking gas and driving petrol' (109). And a habitual drunk he is, shouts in his frenzy 'of blowing up the entire world' to build a new heaven and new earth' (231).

True, the novelist is sarcastic and satiric about 'atom and the serpent', but she is equally critical of pseudo-westernisation which has drained the vitality and originality of the Indians. If anything equals the satire of 'the serpent' in the novel, it is pseudo-Western values which are esteemed so high by the learned academicians. Prof. Yaugandharayana, Americanized in his dress, speech, mannerism and even in his name (mutilated as 'Yana'), looks down upon everything Indian as worthless and prides over little tit bits he has bought in Europe and America. There appears to be a mad craze for everything 'phoren'—foreign cars, foreign fridges, foreign stereos, foreign film-projectors, imported dining room set and what not among the so called academicians. The Silka Pinta Bar is a symbol of urbanised India's constant search to find a foreign identity. Even Vatsa, son of a traditional Sanskrit scholar finds westernized intellectual life of bombay's suburbia more comfortable than the house and the big library— 'Jnana Deep'— of his father in Daymoypour and just for a smart flat in Bombay he lets the 'Jnana Deep' to be pulled down and a five-star hotel to come up in its place. In his view 'India's future lay in science and technological education, rapid industrialisation, and drastic social change' and Sanskrit is 'a mere anachronism'. (135) So his conclusion; 'one must simply cut off the umbilical cord, forget the past, and boldly step into the modern age; else India was doomed' (131-132).

Vatsa is truly caught in the trap— of 'atom', 'the serpent', and craze for westernisation. Not only Vatsa, but all sensitive people feel suffocated in this general atmosphere of decadence and it is in this context the second strand in the story viz. maladjusted marital life of Satya and Raj gains special significance contributing in no little measure to the central motif of the novel. Surely Satya and Raj are not directly connected to the campus politics, but the poison of politics in the air they breath plays on their nerves, drains their capacity for endurance and sterilizes their very existence forcing upon them the predicament of self-alienation. At one point in his conversation with Lakshmi, Satya's friend, Raj reveals what is eating him:

> "You don't realise our depressing set-up Lakshmi. I see no future" ...."Father's presence alone is enough to cause this depression"............"I'm the hated VC's son"..........."Life and love have no chance in this arena !" (261-262).

And Satya :

> "I'm sick of my life here, and one reason is that Hell has already taken over the University. Who can lead a normal life here in the Villa?... A crisis everyday, a gherao every night." (273).

The citadels of learning thus going through a demented phase with violence, unreason and greed leading the way, not only do the individuals closely as well as remotely connected with it suffer, but also the purpose of establishment of the educational institutions is totally defeated. For, here they 'encode raw B.Sc. graduates and decode them as M.Sc.'s two years later' (146) and a student ensures his first class by meeting the 'phoren' need of his Professor. No wonder classroom lectures, seminars, examinations and research are all but a farce in a big way. Vatsa mourns 'where were the 'Groves'? Whither had 'Academe' gone ? (250).

So much about the politics for power and the power of politics. But 'Ah, how sustain hope of saviour Grace' amidst general decay? How to eascape the 'trap' of the trio? A rare ray of light does creep in this otherwise murky setting. A ray potent enough to lead one from 'the darkest night' to 'the dawn' only if one cares to follow it. It is the light of traditional Indian culture. Prof. Rajeswara, the renowned Sanskrit scholar and his wife emerge in the pages of the novel as representatives of wisdom and values of traditional Indian culture:

> Prof. Rajeswara had come as a God-send to Vatas. What was it but Grace? and Grace Abounding ? (191).

In his contact with this modern Rishi, Vatsa is chastened and he realises what a horrible mess he has found himself in :

> No, this is not the way I thought of India stepping out of her traditional stranglehold into a scientific future.(134)

He even feels guilty that he has been contemptuous of what his father stood for and that he has been blindly over-enthusiastic of modern science :

> ...this ancient knowledge has as much relevance for us today as modern nuclear science...I feel guilty because I only saw deceptive appearance, not the deeper reality. (207)

Not only this. Now he finds 'an unexpected meaning' to his almost anonymous existence as 'a living link in Rajeswara' leads him back to his father once again:

> "I see 'Jnana Deep' in my mind's eye..." (209)

What is more, Vatsa and Lakshmi together lit a new light in the sterile life of Satya and Raj.

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PORTRAIT OF AN AGE

Amrik Singh *

For reasons which tell more about the state of journalism in India than the quality of the book, whatever reviews of Raj Thapar's book, *All These Years - A Memoir* (Seminar Publication, New Delhi, 1991; pp. 472; Rs. 275) have appeared so far have focussed on the second half of the book. That portion deals with the breach between Indira Gandhi and the Thapars on account of the Emergency and makes better 'copy' than the kind of perceptions that Raj has to offer about the Communist Party of India (CPI) when it, after the transfer of power in 1947, adopted a new political line and almost smashed itself.

Before he got married Romesh Thapar was working on the staff of *The Times of India* and had made a place for himself in the social and cultural life of Bombay. At that time the city was somewhat dominated either by the Parsis or the British. With his characteristic aplomb, Romesh had no difficulty in mixing with this group and becoming a part of it. Gradually Raj also slipped into the pattern and there are delicious vignettes about the upper class life in Bombay during those years of transition.

Romesh was fairly close to the CPI at that time, and particularly to P.C. Joshi, the CPI General Secretary then. That man had a remarkable feel for the 'roots' of the country and one thing that drew Romesh to him was precisely this search for the roots. He had been brought up in an Anglicised family and was aware of a certain lack of depth in this regard. This, amongst other things, drew him to the CPI. Raj had better grounding in things Indian but there were no difficulties or tensions between them on this score.

At one point, Raj refers to her encounter with a visiting American—the wife of journalist—who waxed eloquent on the great importance of one's roots. This struck an echo in her heart. Throughout the book, Raj displays unusual sensitivity to the fact of her being an upper middle class Punjabi who moved within the ambience of a cosmopolitan city like Bombay. In the ultimate analysis, it is her sense of roots as also her basic sense of values which saved her both from the kind of morass which the CPI in those years became and the abomination which Indira Gandhi perpetrated in 1975.

With the transfer of power approaching, things became difficult at *The Times of India* and Romesh decided to resign. Both of them went to London and spent a little more than a year there. London was still recovering from the aftermath of the war and the conditions of living were very difficult. Rajni Palme Dutt who had stayed with them in Bombay on a visit in 1946 became a friend and mentor. During their absence from the country the CPI adopted the Left adventurist policy though, living in London, they were not exactly aware of what was happening in India.

The first thing that they did on return was to go to the CPI headquarters and ask to be enrolled as members. Of all the people, Mohan Kumaramanglam who had been so close to them in the pre-1947 days, told them to wait for a while. Meanwhile, there were all kinds of developments including Ranadive's call for a general strike on February 2, 1949. As Raj puts it :

> This was going to be the strike that would end all strikes where the people would rise to throw out the oppressor, and the vanguard of the working class, the Communist Party, would seize power. This was going to happen throughout the vast Indian continent.

She adds with tongue in the cheek that on that morning Romesh was required to wake up (on the D-day as she puts it) at 6 AM, rush out of the flat to the top of the Hanging Gardens, look across the harbour towards the textile chimneys and, if they were not spouting smoke, he was to leap into his car and tear down Marine Drive to All India Radio and help seize the radio station. Nothing of the kind happened however and Romesh, always a late riser, went back to sleep to make up for his lost sleep.

Clearly something had gone wrong somewhere. But where? Nobody knew the answer. All these years, the CPI had been receiving instructions from outside and it had led to this impasse. Meanwhile, Romesh had brought out a weekly called *Crossroads*. Nominally it was his paper, really it spoke for the CPI.

Things could have carried on merrily like this for some time except that in the meantime the Cominform journal published an editorial about India and gave a detailed assessment of the class character of the Indian state as also the potential enemies and friends. There was one innocuous line in that editorial: "The party must align with all the peasantry". Were the kulaks also included? Nobody was clear on this point and only somebody from outside could throw light on it.

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Raj Thapar was almost bullied by Ajoy Ghosh into becoming a courier for the CPI. She went to London on the pretext of business and established contacts with Palme Dutt. When asked, he replied :

> Naturally, all the peasantry means all
> the peasantry! What else could it mean?

She had a very long and detailed discussion with him and when she came back she was loaded with wisdom, so to speak.

On her return, Ajoy Ghosh, who became the General Secretary of the CPI a little later, came to see her. Along came Romesh Chandra who eventually became the President of the World Peace Council. Ajoy wanted to put forward a new line so that Ranadive could be dethroned as he had dethroned P.C. Joshi earlier. For that purpose he had to have a new line. How to overcome the impasse till somebody from outside had pronounced authoritatively? In this case it was Rajni Palme Dutt.

When Raj conveyed all this to the two of them, Ajoy expressed his gratitude by saying that her name would be written in letters of gold in the history of the CPI. She felt profoundly embarrassed at this remark. Worse, she could see that "scheming, suppressed, glee of oneupmanship" in Romesh Chandra's eyes. Evidently they had scored over the other members of the Central Committee.

Meanwhile, the World Peace Council had been inaugurated and Romesh had got involved with it. He went to London in that connection. He also spent a lot of time with Palme Dutt as Ajoy had desired. On his return he sent a detailed note to Ajoy explaining everything. It so happened, however, that the courier carrying the note was arrested on the way and the whole thing came into the open.

How did Ajoy Ghosh deal with the situation? He simply disowned having asked Romesh to do anything in the matter. Other factions in the Central Committee reproached Ajoy with indulging in factionalism. Ajoy, however, pretended not to know anything about it and that was that. This double crossing by a senior leader of the party shattered Romesh. Not only that, the CPI circulated a document accusing Romesh of acting without authorisation and attempting to derail the party.

Romesh, however, did not take it lying down. He sought a meeting with the Central Committee and claimed vindication for what he had done. It was promised but nothing of the kind happened. This incident has been described in some detail for the reason that not many people have written about it with such candour and a sense of irony. While the book has been written by Raj, Romesh was as much a party to what was being written. This is not to suggest that he must have influenced his wife in any devious way. There was such extraordinary understanding between the two of them that what she writes appears to project his point of view as well.

As if what had happened was not shattering enough, Dange took Romesh aside and told him that he had joined the wrong faction. Had he joined him, he said, he would have never let him down. Romesh's characteristically naive answer was. "It was to serve the people, not a faction." Undaunted, Dange replied: "Join me now and I will make you a Central Committee member before the year is out."

II

The next few years were years of drift and indecision for Romesh. He wrote a book entitled *India in Transition* but that was not satisfying enough. Eventually he hit upon the idea of bringing out a journal which he called *Seminar*. Both Raj and Romesh described it as their third child. How they ran it for over a quarter century and with what degree of success are matters that do not have to be described. The only positive thing that can be said is that it was only a gifted couple like this one that could have ensured the success of a journal like the *Seminar*.

There are many more things to be said in regard to this earlier period but then a reader has to read the book in order to savour what is written therein. No review can ever be a summary of the book, more so in the case of a book of memoirs. What stands out from this first half of the book are two things. Raj's basic humanity and search for meaning and relevance, and Romesh's misadventures with a whole succession of people, particularly those in the CPI.

Misadventures were to be a part of Romesh's life even when he moved to Delhi alongwith the journal. Romesh's column in the *Economic Weekly* made him much sought after by the diplomatic crowd and a close relationship with Clovis Maksud soon made him a part of the political web of Delhi. Their first meeting with Indira Gandhi may be referred to here. Both Raj and Romesh had just come back from a visit to Japan and she began to describe to her how much of a man's world it was in that country. She ended up by saying that

> (Japanese) men basically wanted slaves,
> someone who would service their every
> need—and that is what women appeared
> to do.

Indira Gandhi reacted in an unexpected way. She said with disarming frankness :

> It never helped me. I certainly did
> everything for my husband—even typed
> for him—but it made no impact.

Raj was embarrassed by what was said but what she could not do was to tell her in response that the point at issue was her husband's loss of ego and not the service extended to him.

There were all kinds of other contacts including those with Krishna Menon, V.K.R.V. Rao, Dharma Teja and several others but what came to play quite a role in their life was the contact with Karan Singh. The first meeting led to a fairly intensive contact spread over several years and also to Romesh's induction into the ITDC and several other assignments which came in course of time. They came largely through Karan Singh though it is a different matter that Karan Singh himself was inducted into the Cabinet partly at Romesh's initiative, as indeed was I.K. Gujral a little later.

How Romesh got drawn into Indira Gandhi's circle is interesting. There was no design about it. One thing led to another. In terms of values as well as cultural outlook there was a good deal in common. In any case Romesh was a man with a vision and immense drive. Once he latched on to something, he made a success of it. Qualities like those could not but be appreciated and that is why he was asked to do one thing after another.

Meanwhile, Nehru happened to die and the question of succession generated some excitement. One of the people they dined with on that occasion was Arvind Kilachand, a Bombay industrialist. One of the things he mentioned at dinner was that "everyone has a price, then why not (in the case of) a Prime Minister". This was a reference to a suitcase of currency notes which he had brought with him so that everyone could be bought over and Morarji Desai made the Prime Minister. Raj was shocked and said it in so many words. Her comment needs to be reproduced.

> But to no avail. His face was glowing with the possibility of being close to power, his eyes reflected the possible future and there was nothing we could do to dampen his drunkenness. It is that strange kind of goal of power-within-reach, which seems to transport people into a never land. We were to see it frequently in the years to come. I was certainly shaken by this encounter and part of me was not at all sure that they could not pull it off. But they could not. Shastri became Prime Minister without much ado.

Such comments are to be found all over the book. Several of them tend to be even sharper than what is stated here. Anyone who reads the book would be within his right to raise the issue if there is anything malicious about the author. That, however, is the last thing that can be said about her. She has her own set of values which perhaps are no longer as fashionable as they were, if one were heir to the tradition of the national struggle; and she belonged to that category. Judged from her point of view and with the honesty and candour that are a part of her make-up, she makes these comments as the occasion arises and the reader takes them in his stride.

It is necessary to say so because there is one thing about this book which needs to be stressed. Every autobiography is partly a revelation and partly a self-projection. The success of every such endeavour lies in balancing the two conflicting point of view. Raj knows how to maintain this balance and does it with such skill and sureness of touch that one can almost say that of the scores of autobiographies published by our countrymen in English, hardly any one of them comes up to the level of sophistication and artistry achieved by Raj.

This statement, however, needs to be qualified somewhat. The first two-thirds of the book confirms to this description. She maintains a level of writing and a measure of detachment which makes this book absorbing as well as insightful in a variety of ways. But in the last one-third, two things happen. Her sadness at what the Emergency did is so unredeemed and so profound that a part of that detachment gets eroded. Secondly, and this is only a piece of guess-work, she presumably wrote it when cancer in her body had been already detected and she was writing under the shadow of that fell disease. This does not affect her writing which is as urbane as in the earlier portion. But it does affect her pace of writing and, to that extent, her projection of events.

Things are telescoped now and there is a compelling desire to finish the book more or less according to the pre-set design. Possibly she knew that she would not be able to sustain the writing of the book beyond the Emergency period and therefore she relies more and more upon quotes from her diary on which the book is ostensibly based. There is nothing wrong with that. It conveys a sense of immediacy which she presumably wishes to convey. At the same time one cannot get away from the feeling that something within her tells her that she has got to complete the job before things go out of hand.

III

To come back to the chronology, however. Once Indira Gandhi became the Minister for Information and Broadcasting, as Raj puts it :

> The obvious corollary to that was that Romesh stepped in as her personal adviser. It was only natural, not a part of any design either on her part or on his. There were no compulsions, no commitments, none were asked for, it

> was just the concurrence of circumstances. She had no equipment for I & B except a measure of aesthetics and common sense. He had a life time of expertise behind him. Add to that a sense of guilt regarding Nehru, an ever-protective feeling towards her, a making up for the past paying back a debt to the father but with pleasure because he had a rapport with her which was out of ordinary and, as always with Romesh, this concern never stopped at one point, it encircled the whole.

This is a fair description of the relationship between the two during those early years. Indira Gandhi would consult Romesh about all kinds of things. That is how he got involved in the Nehru Memorial Trust and several similar activities. Playing a second fiddle, however, is not an easy task, as they say. In this case it was even more difficult. While Romesh wanted to influence decision-making from behind the scenes, he did not wish to come into the open and embarrass either Indira Gandhi or himself.

What he liked about her was that she was not afraid to act if she was convinced about the wisdom of doing something. Eventually this very quality of hers would be used to such deadly effect that he never forgave for his misjudgment and his enthusiastic role in building and propping her in those eventful years.

When Indira Gandhi became the Prime Minister, Sachin Chaudhuri, the Editor of the *Economic Weekly* who had been very close to Romesh over the years and knew a good deal about the relationship, sent him a telegram, saying: "Thy Kingdom Come." What all this led to is another matter and partly explains the tone of controlled resentment and a faint sense of bitterness that pervades the last one-third of the book. During those early years, Romesh was involved in a good many things, especially on the cultural front. Without going into details, and some of them have been reproduced elsewhere, he became a power behind the scenes. This—not unnaturally - gave rise to jealousies. But Romesh was untouched by them for he was free from personal ambition. Raj's comment in this regard is to the point :

> Romesh's biggest defence was that he wanted nothing, no job, no favour and he never, but never, felt lesser than another. It is a kind of strength or power that comes from within and requires no props of any kind.

What gives this perception a keener edge, however, is a bit of self-analysis when Raj goes on to add:

> I also ran away from facing the limelight but for different reasons, for being squeamish, embarrassed, almost afraid in some ways and yet if I search into my motives and reactions, dig for the truth within me, I must confess to a certain childish euphoria of being close to power. It was there, this faintly heady feeling.

One of the qualities of the book is precisely this capacity to look within and introspect. In a chapter entitled "Of Snakes and Ladders", she begins as follows:

> So our life skimmed along intertwined with the threads of power. To say that it had no effect on our psyche is to be cynical and untrue. It did, on mine at least; Romesh was lost in a kind of missionary zeal and, fortunately, temperamentally was wildly antagonistic to the trappings of power, even deferred power as his was. I found a secret delight in meeting people who were constantly working out their little perches in the hierarchy, observing their manipulations, and somewhere in the deepest recesses of my mind was the wish, the possibility, of exercising power. I rationalised it by saying to myself that it was only because of all the things we wanted to do, but I can't delude myself by denying the faint presence of a certain headiness, a mild intoxication about it all. When I argued with Romesh about his emphatic denial to the offer of a parliamentary constituency, he was shocked. He just stared as if he had suddenly discovered some terrible face of me, the presence of which he had never suspected all these years. 'Good God. You have ambitions of being a minister's wife. I would never have believed it.' That cured me once and for all.

The reference here to a parliamentary constituency was in the context of what Dinesh Singh had done sometime earlier. Being the Foreign Minister at that time, he was afraid of losing the portfolio to a man like Romesh were he to be returned to Parliament in the general election then pending. To forestall such a contingency, he said publicly at a dinner to which he had invited Raj and Romesh that the highest in the land had wanted the safest seat in India for Romesh. This was calculated either to test him or to upset him. Romesh rose to the challenge and said:

> What do you think of me? A stooge
> like all of you here?

This was said in the presence of a large number of persons who were seeking tickets for the election and looked upon Dinesh Singh as their guide and protector.

As Nagendra Singh, who was then the Secretary to the President, and witnessed the exchange, commented: " Only Romesh has the courage to talk like that." This was the quintessence of the man. He was not a self-seeker whereas the whole lot of them were. At one stroke, so to speak, he established his moral superiority over them and also his distance from the murky goings on behind the scenes.

IV

The Emergency has been written about so much that to repeat or reproduce some of those things in this review should not be necessary. A couple of things, however, do require to be referred to. Some of them reflect Sanjay Gandhi's authoritarianism and worse. Sanjay's theory about the so-called political leaders was that "if one kicked them hard, they would not even squeak". When the Emergency went through unresisted and everyone, including Y.B. Chavan and Jagjivan Ram, fell in line, he was vindicated. This is precisely what he had forecast. After that there was no looking back for him and whatever he said or wanted went through.

Raj describes in some details Taneja's not untypical story. He was the Chairman of the Central Bank of India and had been put there with Sanjay's help initially. But when he refused to give him advances against the well-established safeguards, Sanjay saw to it that he was not given extension. Romesh was on the board of that bank and when he wanted to see C. Subramaniam in this connection, he was told that he was not available in 'the foreseeable future'. Romesh promptly resigned. After that there was no question of any redress. Taneja had to go. More than that, he never opened his mouth for fear of losing his life.

In her comments about various people who were shown to be men of straw during those days, Raj does not pull her punches. Whether it is Karan Singh or P.N. Dhar or P.N. Haksar or even E.M.S. Namboodripad, she expresses herself without hesitation and, no less important, without rancour. She does not have any negative feeling for anyone. At the same time, if a thing has to be said she says it without toning it down and with undiminished urbanity.

Even before the Emergency she was appalled at some of the things that she had witnessed in people whom she had known for a long time. One of them was Mohan Kumaramanglam. He had drifted away from them after 1947. Being a brilliant man, he took to the practice of law in Madras and did well for himself. Not only that, he gradually drifted towards Indira Gandhi and became an important Cabinet Minister in the early seventies. Before he became a Minister, she could see that he was dazzled by the kind of life that power promises. The degeneration in him was so unmistakable that she felt disgusted by what Mohan Kumaramanglam was saying. Her comment on this score is devastating:

> They (ex-CPI comrades) all got a thrill out of extending the distance between themselves and the average man. To me it was a kind of vulgar deception using Left words and ideas, but once disrobed they revealed the same sordid, naked ego.

While everybody craved for power, Raj and Romesh scrupulously kept clear of it and that indeed entitles Raj to say what she says about various people. There is no malice, only bewilderment and hurt. She finds it difficult to understand how people could descend so low but then clearly both Raj and Romesh, though socially a member of the upper class, were not a part of it in the sense that they were not lusting after power as almost everyone else was doing.

The one who manipulated and clung to power more ruthlessly than anyone else was, of course, Indira Gandhi and some of the hardest things are said about her. The story, for instance, of how she snubbed her waiter for not having served soup to her first (for she was the Prime Minister) but to Padmaja Naidu (who was only a guest) has been quoted several times over. This lust for power manifested itself in another, more ugly way when Romesh sought a formal appointment with Indira Gandhi and complained against Yashpal Kappor's corruption. She, however, defended him. This was the beginning of the breach between Romesh and Indira Gandhi. What Romesh did not understand then, and perhaps never did, was the fact that power cannot be exercised without some instruments and Yashpal Kapoor was one of them. If he was corrupt in the bargain, it was only too bad; and perhaps of no consequence in Indira Gandhi's scale of values.

If there is one valid criticism that one can make of Raj's portrait of what happened before and after the Emergency, it is this: her account does not offer many details of Sanjay Gandhi's rise to power and the way he consolidated it. Maybe Raj did not know enough about it and Indira Gandhi managed to keep the details very much to herself. This process spread over three to four years was apparent to both Raj and Romesh but the crucial question is: what were the details and what was the process ?

This book does not throw much light on these issues.

People like Yashpal Kapoor and several others who assisted in the process have evidently kept the details to themselves. And yet unless all these details are strung together and organised into a pattern and analysed, an important dimension of what brought about the Emergency and what happened during those dark months would remain obscure and unanalysed. If Raj does not talk much about it, it stands to reason that she was only dimly aware of what was happening.

The book offers a rich fare of thumb-nail sketches of various persons she came in contact with. Two of them may be briefly referred to here so as to provide a flavour of what the book has to yield by way of entertainment. About Krishna Menon, for instance, she says that she always got the feeling as if he was acting in "a Shakespearean play". As to Karan Singh, she describes him in these words :

> He would never make a politician. I think it was because he thought of himself rather than of what was happening. He could not forget the self despite his Hindu involvement... . He could only preside, not lead.

Two last comments, one of them a minor one though. Why is there no index to the book? It looks like an oversight which can still be rectified. Though priced modestly at Rs. 275, before long it would be brought out in a paperback so that more people can have access to it than today. The book deserves it. When that is done, it would be possible to also provide an index.

Secondly, though it does not flow directly from a study of the book in hand, what about the diary between 1977 and the year till when it was maintained? Is it publishable? And will it be published? It is for the family to decide what to do about it.

But of one thing there should be no doubt. Raj's perception of events has a rare quality about it. She is honest without being uncharitable. At the same time she has the capacity to see through the shams and subterfuges most of us manage to live with. If the unpublished diary gives evidence of the same quality of perception as this book does, that too must be made public one of these days.

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Nobel Laureate William Golding and His Works

S. Abdul Kareem*

To emerge a celebrity from a near anonymity is a windfall not given to many. Prestigious prizes have an alchemic effect in that they wrap writers in glory who otherwise would have remained unhonoured and unsung. It is a piece of good luck that the announcement from Stockholm brought into limelight the name of William Golding, the seventy three year old British author who has been voted this year's Nobel Prize for Literature by the Swedish Academy for Literature.

A school master of the pre-war time, a Lieutenant of a Rocket Launcher in British Navy during the Second World War and a fire-eating writer of the post-war Britain, Golding shot into limelight winning the Nobel Prize much to the dismay of many an ardent aspirant. Though his career was to be a scientific one, he was haunted by the darkness of the human heart deepened by one was closely following on the heels of another. He opted to be a writer with a view to making people understand their own humanity. In all his works he underlined "the need for self-awareness, the need to look evil in the face and root out self-deception".

Planned as a black mass version of R.M. Ballantyne's "*The Coral Island*", 1958, Golding has his first novel, "*Lord of Flies*" published in 1954 with the problem of evil as its theme, worked out through the fable of a plane-load of British Prep School children cast in an aircraft consequent upon the nuclear war breaking out in Europe. The desert island being uninhabited, the children are left to themselves to organise their lives without the guidance from their elders. They split into two groups -- the ring leader of the one is potent for mischief and cruelty while the others grope blindly towards better ordering of things. Situations worsen and open conflict ensues taking them to the brink of barbarism. The children enact the tragedies of adult world and the original Sin destroys the garden of innocence. Their adventure with the beast reveals the best in them and one is spared the further horrors by the arrival of the rescue ship though the gloom luridly painted is not relieved in the least. The rescue brings no relief to these young devils as one of them weeps for the end of innocence and the darkness of the human heart.

The arch-villain Jack after his hunting spree brings the head of the pig mounted on a stick which all of them revere and worship. This rotting pighead is the Lord of the Flies, who is none other than the Prince of Darkness, Beelzebub, Evil incarnate. What, after all is the message the novel conveys ? Is it the depravity of human nature and the inevitability of evil ? Though Golding sounds pessimistic, he would have us believe that man can no longer believe that evil does not exist. It does exist, and there is no denying the fact. Man's nobility is to stare the beast in the face. The boys have fallen from the civilised heights due to the exigencies of war and have turned savages. Simon with all vision and fore-thought discovers that the beast reportedly seen is no other than the dead airman whose parachute strings have been tangled in the rock and the beast to be feared is not real but lives within themselves.

Golding resented the epithet 'Fable' in the B.B.C. interview with Mr. Frank Keromode under the Third World programme and wanted it substituted by 'Myth' as that would mean 'something coming out from the root of things in the ancient sense of being the key to existence' relating to the story of the Fall of Man and the garden of Eden, if not a dramatized dialouge between democracy and anarchy.

Golding's second novel, '*The Inheritors*' (1955) is provoked by H.G. Wells remarks in his '*Outline of History*' regarding the Neanderthal man, our immediate predecessors being gross and brutal creatures who were possibly the basis of the mythological bad men, the ogre in folk literature. In their conflict with the new race of homo sapiens, the Neanderthal man revealed his humanity compared with the corrupt practices of the succeeding generations. The apemen are presented as mainly vegetarian and take meat only when they find it already killed by some wild animal as then there is no 'blame'. Golding accomplished almost a technical feat of writing a novel from the point of view of people to whom logical sequence of thought was not natural as they carried on their thought processes through non-verbal pictures and by conditioned memory. Golding imagines the Neanderthal man as innocent and gentle, who lived in a universe that was essentially religious and was bound to his fellows in a participation mystique that made language unnecessary. When H.G. Well calls the innocent anthropoid a brutal ogre, Golding retorted saying: 'What we are doing is externalising our inside'. Thus Golding established that modern man's villainy is beyond any parallel in that the modern man drinks without being thirsty, eats without being hungry

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and makes love at all time as it were, in season and out of season. Thus he subscribes to his pet theory that man's gain in knowledge is only through the loss of his innocence.

Having dwelt at length the group feelings in the first two novels, Golding attempts individual problems in '*Pincher Martin*' (1956) published in the United States as '*The Two Deaths of Christopher Martin*'. In it he talks of the sailor's struggle for survival after his ship has been torpedoed clinging to a bare rock in mid Atlantic. A second reading reveals that Martin is already dead and drowned before being cast on a rock and through his Sojourn on the rock, the writer takes us through his past life of selfishness and greed. This Martin of the Royal Navy is a pincher, namely the one who pinches or steals which in other words means converting to one's use what is other's. Golding appended his note to the novel which reads: The greed of life which has been mainspring of his nature forced him to refuse the selfless note of dying. He continued to exist separately in a world composed of his own murderous nature. 'Through a moment of expanded consciousness' Golding traces the primal fall of Martin through the facet of guilt and retribution. His purgatory after death is to be chained to the rock of his hated but inescapable self.

His fourth novel, '*Free Fall*' which appeared in 1959 presents a successful painter Sammy Mountjoy, who in all his pursuits in life has literally mounted joy to the exclusion of all other considerations. As in a flashback narrated in the first person, we learn that Sammy was born in Kentish slum, adopted by a homosexual reactor, grows up, seduces one girl and marries another; becomes a Communist and then quits the party, takes up art and finally goes to the war and faces an interrogation by a German Officer in a prisoner of war camp resulting in solitary confinement. He tells his story so as to discover the moment when he first sinned and so fell from grace and lost the innocence which was the original state of man. The theme of guilt and retribution reminds one of Camus's masterpiece'*La Chute*'.

His next novel, '*The Spire*' published in 1964 deals with the aim of dean of the Cathedral Jocelin in erecting the spire though the foundation of the Church is not sound and the money is contributed by his aunt who was the King's mistress and who wanted to be buried in the sacred premises. The project of erecting the spire scaling the heights makes him go down in the depths of his abysmal nature. The spire is threatened by powerful gale, whence the nail is brought from Rome to save the towering edifice from a collapse. 'The Spire' is regarded as Golding's finest symbol to make people understand their own humanity, which is diminished by their self-deception.

'*The Brass Butterfly*', (1958) is a stage adaptation of his novel, '*Envoy Extraordinary*' (1956) dealing with an invention, a projectile that kills its commander as a result of the removal of the safety device, the brass-butterfly. '*The Pyramid*' (1957) is his more recent novel dealt with in three parts as stories having for its theme self-awareness which is a life-long process in the life of Oliver, its chief Protagonist, who has matured to the apex of a pyramid using other people as steps in progression. His more recent work, '*The Scorpion God*' (1971) similarly contains three stories dealing with the disturbing view of man's place in the world.

The problem of evil, of sin, and retribution which permeates his work makes one conclude that Golding is a religious novelist with a vision. His graphic descriptions reveal him as an extrovert wanderer, his philosophical forebodings as an introvert prophet and an evil-obsessed pessimist despite in appearance he looks an 'astute well-feasted Viking in full beard'. As a creative writer, he could dash off his work with a remarkable rapidity. '*The Inheritors*' is written only in twenty eight days and '*Pincher Martin*' in sixteen though he must have pondered over them for years. His conception of a writer's mission stands out through his pronouncement: "In all the books I have suggested a shape in the universe that may, as it were, account for things. The greatest pleasure is not -- say sex or geometry. It is understanding. And if you can get people to understand their humanity -- well that's the job of the writer".

The Second World War proved a turning point in the life of Golding as one no longer notices things airy and fairy in his post-war fiction. Equally could he no longer remain silent about the inalienable violence in human nature. As a result, the dark clouds still hang over the fates of nations. The civilization of man is all too thin. It is a facade. The first step in man's self-awareness is the knowledge of evil at the very core of his being. Even his young Hitler, Jack Merridew glorying himself in the cult of cruelty resents at the first killing of the pig because of the enormity of the knife descending and cutting into living flesh and also because of the unbearable blood. Jack resentment at the unbearable sight of blood in his first step towards self-awareness analogous to the shocking realisation of Lady Macbeth after the heinous crime of murder when she exclaims: "Yet who would have thought the old man to have had so much blood".

All his works underline evil as a potential force a fact dreaded by Walter Allen as evil assumes the tragic dimensions of the 'fundamental truth about man'. In all his works, modern man still shows tendencies of relapsing into regression and barbarism. Golding's repeated return to the theme of evil emphasises the need to identify it, face it and understand it with a view to overcoming it. The greatest prize for man is the finding of his own soul, his spirit and divine strength and worth. A reading of the novels of the Nobel Laureate will give us the necessary pluck and understanding, if not idealism, to stare evil, as it were, the beast in its face.

From the Precipice of Disaster

Mohan Kadu*

Reading Aitmatov's novel "*Plakha*" (The Executioner's Block) published in 1986 was the most disturbing experience. It is indeed a journey in search of genuine answers to the social, ethical, philosophical problems facing humanity. *Plakha* is the magnum opus of Chingiz Torekulovich Aitmatov, the well-known soviet writer, philosopher, activist, humanist. In it, Aitmatov discusses, against the backgrounds of contemporary Soviet realities, everything that disturbs the conscience of the sane and the thinking. What strikes most significantly in the novel is the path of self-sacrifice that Aitmatov has ordained to his protagonists in the pursuit of justice, peace and global consciousness.

"*Plakha*" is the executioner's block towards which the entire humanity is dragged and is condemned to be executed at the hands of those insane, who are hell-bent upon self-annihilation. Even if the days of nuclear warfare and the consequent global destruction are seemingly and hopefully put off for the present, nobody can afford to evade the equally disturbing problem of environmental degradation, which, as Aitmatov sees, has acquired not only social but ethical dimension too. He believes that the supreme and most pressing task of literature today is to foster a better moral climate in the world. This also implies to my mind, bringing mankind-hanging by a thread on the precipice of self-destruction back onto the path of peace, universal brotherhood and installing it on the high pedestal of morality.

"*Plakha*" is one of the few modern works of genius writers that tries to reach the very roots of several social, philosophical and moral problems and other extremely diverse issues like the question of faith and lack of it, belief in Man and belief in God, the question of conscience, the realisation of the danger of mankind's self-annihilation. Aitmatov, of course, has his very own ways of attempting to meet the problems and weed out the evils. He tries to inculcate, through this artistic creation, a sense of sane reason that alone can save humanity from the dangers exemplified by all kinds of concepts and doctrines for using weapons of mass destruction.

Chingiz Torekulovich Aitmatov, born in 1928 in a remote village called Sheker in the Kirgiz Republic, has earned for himself a very special place in Soviet literature. He has to his credit the most covetous Lenin Prize and the State Prize for literature. What is most striking about Aitmatov the man is his social commitment. He is not merely an arm-chair writer-philosopher but a great humanist and a social activist. He is the initiator of the 'Issik-Kul Forum', a social movement dedicated especially to the cause of ecological and other related social problems. If his earlier works "*Jamilya*", "*Farewell, Gulsary*", "*The Early Cranes*", "*Burannii Station*", to name a few, have earned him a name in Soviet literature, his latest novel "*Plakha*" (1986) has secured a special place for him in the modern world literature.

Nineteenth Century Russian Literature was ever in pursuit of ethical values. Tolstoy, Dostoevsky, concentrated their attention on the problems of ethical values *vis-a-vis* the contemporary society and the individual. This made their works immortal in the literary conscience of the whole world. Along with the society, literature also underwent changes. However, the question of ethical values once again came centre-stage in the works of Valentin Rasputin, Victor Astafeev, Chingiz Aitmatov and others. The decade of the 1980s has especially been marked by the appearance in soviet literature of works that posed the most important ethical and social problems. This is a sign which indicates that the country's entire life -- economic, social and spiritual -- is being restructured.

In this context, "*Plakha*" is a great, significant literary event in the modern soviet scene in particular, and the world literature in general, as regards its thematic content, its universal appeal, masterly craftsmanship that contribute to make it a masterpiece, a truly phenomenal representative work of modern literature.

"*Plakha*" is set against the modern soviet realities, but the appeal is truly universal. The central idea of the novel is the quest for new ethical values which would

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suit the human society in the present stage of development. The two plots relating to the lives of Avdii Kalistratov and Boston belong to two different planes. These plots are interlinked by the animal world represented by the family of wolves -- Akbara, Tashchainer and their three little cubs.

Avdii is a disciple of a theological seminary. The conservatives church expels him for his unorthodox views: he is in search of a compromise between religious and materialistic ideas. He strives to find a practical use of his views. But the common masses, amongst whom he works and preaches, do not accept him and his preachings. And he goes on to wage a lone battle against drug peddlers, poachers and other anti-social elements -- the real evils plaguing the society. Advii, in a vain bid to challenge the ruthless and criminal operations of these people and to reform them, meets with the same tragic fate as the seers of all times had to meet time and again. He is hanged on a tree as a punishment which is strikingly reminiscent of the crucifixion of Jesus Christ.

Boston, on the other hand, adheres to materialistic ideals. His moral and ethical attitudes emanate from the hard works and honesty. Yet he is also destined to die equally pathetically. His qualities prove to be inadequate to counter the forces of evil. When Boston comes to know that Bazarbai has stealthily taken away the offspring of Akbara and Tashchainer, he pleads with the latter to set them free. The wolves are frantically in search of their cubs and threaten the entire neighbourhood. But Bazarbai fails to see common sense. Bazarbai in a flash of thoughts remembered the days when it was easy to do away with the likes of Boston. This has an obvious reference to the era of Stalin's personality cult when Bostons perished without even the slightest murmur of protest.

By taking away the cubs, Bazarbai provokes the fury of the wolves and indirectly compels Boston to fight against them and kill Tashchainer. Akbara tries to whisk away Boston's child. While attempting to save him, Boston kills both, Akbara and his own son. In a fit of anger and despair he then kills Bazarbai too. Boston finally goes to embrace the 'plakha' (the self-inflicted punishment) in answer to the call of his conscience. This alone would redeem his sins. This, in a nutshell, is the story of the novel.

In the tragic tale of Avdii and Boston, Aitmatov implies that the ethical issues have already acquired ecological dimensions too. Hence they could not be resolved by the stray sacrifices of individuals alone. But there is a great need to inculcate in the society a sense of gratitude and belonging to the Nature. It would make man sober, compassionate towards the surroundings or else he is sure to head towards a suicidal path of self-extinction. By his indiscriminate destruction of flora and fauna, man is foreclosing the earth from future habitation. Modern civilisation needs a new vision -- a new vision of the living relationships between man and man, and between man and nature. New ethical values could be fostered and nurtured only through compassion and philanthropy.

The Animal World

A recurrent, yet interesting use of nature and animal world is prominent feature in the literary works of Aitmatov. The pacer Gulsary (in '*Farewell, Gulsary*') the camel Karaman (in '*Burannii Station*') and now the wolves Akbara and Tashchainer (in '*Plakha*') are depicted with the most amazing psychological and emotional strength. Tanabai and his horse Gulsary, Edigei and his camel Karaman were close to each other, their destinies intertwined. But in '*Plakha*' the wolves rise above man and above their lowly habits. The family of wolves seems to be between two human worlds. On the one hand, we see the planet of people represented by Avdii with humane attitude to all living things, philanthropy and, on the other hand, the planet of inhuman people, alcoholics, drug peddlers, the sadists, vulgar materialists with least concern for human values, and in their greed and lust stooping low to the beastly level represented by Bazarbai, Grishan and others. But the wolves in contrast to these people, are a family with firm attachment to each other and parental feelings. There is a very significant incident in the novel where Avdii is hanged on the tree by the poachers as his punishment, Akbara and Tashchainer happen to pass by in search of prey. Tashchainer sniffs at the half-dead human body but Akbara forbids him from touching it and they pass along quietly. Aitmatov's intentions in depicting this particular incidence are obvious. The wolves are animals but not beasts, whereas Bazarbai, Grishan though in human form, are worse than beasts.

Historical synchronization

Aitmatov's works often show up an extraordinary blend of history, myth and reality. They reveal rare artistic skill of psychological insights into the motives and actions of individuals, a sense of contemporaneity and deepest concern for man and his surroundings. Avdii is thrown out of a running train by the sadist drug peddlers. He lies there almost dead. The scene, depicted at this juncture, of Pontii Pilate's encounter with Christ just before heading him to his crucifixion, bears testimony to Aitmatov's gifted craftsmanship. Avdii identifies his own fate with Christ's crucifixion, he shares with Christ His deep concern to meet the evil rooted in the actions and conscience of the people not by violence but by benevolence, forgiveness and by paying the highest price : that of his own life. Thus, Avdii, is a true incarnation of Christ in the present times. Avdii has chosen the same path of benevolence and predestined for himself the same fate of self-sacrifice in upholding the eternal human values in the midst of insanity and barbarism.

Aitmatov's attempt at glorifying the evangelical symbolism and to bring the legend on contemporary realities should not be misread as religious revivalism in the sense of the present day connotation. Avdii should be perceived as an instrument in the hands of the author in creating the artistic utopian world; attainment of which demands the highest price. There is a clear message that those who aspire for such lofty ideals should be prepared to pay the highest price too.

This lyrical digression does not in any way mar the tone and tempo of the novel but raises it to the most sublime spiritual level, intensifies the glory of Avdii's undaunting commitment to his convictions, aspirations-benevolent to humanity. '*Plakha*' represents the ultimate fate, a right minded man should be ready to face in his path towards higher moral goals. Throughout our lives we face '*Plakha*' in some way or the other as a price for our uncompromising convictions. In this sense, the theme and contents of the novel cross the time and space boundaries universal appeal.

Avdii -- the idealist

If Avdii is hanged for his ideals, Boston goes on his own to embrace the '*plakha*'. In the tragic end of both the protagonists, there is an implicit moral victory over wickedness. Avdii's yearning for justice and his kindness and unflinching quest for the redemption of man's sins towards mankind and nature, his adherence to non-violent means towards attaining his lofty goals and his sacrifice make him a messiah who descended on earth to dispel the darkness of violence, greed, gluttony, vulgar materialism. In the purity of his heart and his idealism is reflected the spiritual thirst of the new generation caught in the hell of bestiality.

Avdii carries himself like the true embodiment of Christ. Fully convinced that his 'God' is not in the religion he is preaching, not in the church where he is praying, but in the vast multitudes of humanity, he goes to the people; but lowly, the criminals, in search of his new 'God'. He has not the slightest regret while leaving the church, as he thinks, the church would always be with him, for it is very much within him.

His belief in the immortality of life is astounding. "Death is always with you till you breathe, but after you die, there remains no death. Life however, continues after death also." He is convinced that a mere end to his physical existence does not mean an end of his struggle because his soul is immortal. If Avdii is the messiah, Boston is down-to-earth in his fight against all sorts of distortions. Boston's life is a practical attempt at realising the values preached by Avdii.

'*Plakha*' is a tragic book, tragedies befalling man, animal, nature at the hands of something or the other. However, it is an unforgettable experience. Aitmatov has scaled great heights in artistically expressing the contemporary problems, has made an attempt at indicating the possible ways of solving them, and the price, all the wise, brave and benevolent should be ready to pay. The novel shakes and drags us out of our indifference, appeals to our conscience and compels us to look within and around ourselves with probity and compassion.

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Fascinating Books About the Fascinating World of Mathematical Sciences

J.N. Kapur*

There are many myths which, consciously or unconsciously, govern our lives. One such myth is that mathematics is arithmetic and consists of tricks to get the right answers to elementary arithmetical problems. Now mathematics is no more arithmetic than architecture is the art of laying bricks or painting is the art of mixing colours. Nevertheless this myth prevents many persons from getting glimpses of the wonderful world that lies beyond arithmetic.

Another similar myth is that mathematics is a dry, abstract, difficult subject, accessible to only a few exceptionally gifted persons and can be learnt and enjoyed by a microscopic minority of educated persons. A myth that follows from it as a corollary is that there can be no literature in mathematics for the masses or even for intellectuals.

These myths have flourished because of the obvious reluctance of many mathematicians to write about their subject. Usually they are so much engrossed in developing new concepts and proving new theorems (a task which requires complete concentration) that they find no time to explain their subject to others, sometimes even to students of mathematics themselves!

However there are some notable exceptions like Bell, Courant, Hilbert, Kyein, Freudenthal, Polya, Newman, Kline, Halmos, Bellman, Wiener, Hardy, Littlewood, Ulam and others whose writings constitute the literature of our times on mathematical ideas. Their writings are not only charming and fascinating, they are also accessible to all educated persons who have studied mathematics upto the high school stage and who are interested in intellectually stimulating literature. In addition there are a number of beautiful anthologies of expository writings in mathematical sciences.

I have myself been greatly fascinated by this vast literature and have made my contributions through my *Fascinating World of Mathematical Sciences* in 12 volumes (Mathematical Sciences Trust Society) which contain three hundred of my expository articles, speeches, addresses and reviews on culture, history, education, excitement and relevance of mathematical sciences. Earlier I had written a book *Enjoyment of Mathematics for the Millions* (Arya Book Depot) through problem solving. My still earlier books *Fascinating World of Mathematics* (S. Chand & Co.) and *Reflections of a Mathematician* had a similar purpose. My book *Insight into Mathematical Modelling* (INSA) written at the instance of UNESCO was aimed at giving insight into the wonderful world of applications of mathematics.

Another recent book *Culture, Excitement and Relevance of Mathematics* by my friend V. Krishnamurthy (Wiley Eastern) is a very useful contribution to the literature about mathematics. Starting from the very beginning the book introduces the reader to Sets and Foundations, Combinatorics, Topology, Four-colour Problems and Functional Analysis.

A similar book at a more elementary level is Jagjit Singh's *Great Ideas of Modern Mathematics; Their Nature and Use* (Hutchinson).

E.T. Bell's *Mathematics: Queen and Servant of Science, Men of Mathematics* and *Development of Mathematics* (All McGraw Hill) have been classic pieces of literature on Mathematics and mathematicians.

Morris Kline is a more recent author whose books *Mathematics and Search for Knowledge, Mathematics in the Western Culture, Mathematical Thought from Ancient to Modern Times* and *Mathematics: The loss of Certainty* (All from Oxford University Press) unfold the drama of the development of modern mathematics and the present state of uncertainty in a subject which is supposed to have the most solid foundations, among all fields of knowledge.

G. Polya was a great mathematician whose little book *How to Solve it* (Princeton) has been a Bible for all problem-solvers in mathematics and for all computer scientists. In fact the book can be studied by any one and its technique of heuristics can be used to help in the solution of economic, social and political problems and even in solving problems of every day life.

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Polya explained his ideas further in a lucid and clear manner for the layman in his books *Mathematics and Plausible Reasoning* (Princeton) and *Mathematical Discovery: On understanding, learning and teaching problem solving* (John Wiley). Polya's books have had a tremendous influence on mathematical and scientific thinking. Naturally I have myself been greatly influenced by his books and personal discussions with him for which I had a chance when I met him at breakfasts, lunches and dinners at an international conference on mathematics education in England.

Another great mathematician and mathematics educator whose views have influenced me a great deal was Hans Freudenthal. His book *Mathematics Observed* (George Wedenevold) gives a popular and picturesque description of modern mathematics for the layman. Another book of his *Mathematics as an Educational Task* (D. Reidell) gives his keen insight into philosophy and implementation problems of mathematical education in modern times. I will long remember three days of lively discussions I spent with him and his colleagues as a guest in Utrechet, Netherlands.

The following seven books are masterpieces of Mathematical literature by seven of the greatest mathematicians of the world.

- G.H. Hardy : *A Mathematician's Apology* (Cambridge University Press)
- D.E. Littlewood : *Littlewood's Miscellany* (Cambridge University Press)
- J. Hadamard : *Psychology and Invention in the Mathematical Field* (Dover Publications)
- N. Wiener : *I am a Mathematician: The Later Life of a Prodigy* (Double Day)
- S. Ulman : *Adventures of a Mathematician* (Charles Scribner)
- Richard Bellman : *Vistas in Modern Mathematics* (Kentucky University Press)
- P.R. Halmos : *I want to be a Mathematician, An Autobiography* (Springer Verlag)

These books give an insight into the lives and minds of modern mathematicians. Hardy and Littlewood were responsible for discovering and unfolding Ramanujan's genius for the world. Hadamard influenced directly or indirectly many Indian mathematicians who received their training in France. Wiener created the science of Cybernetics which is basic to computers and Ulam contributed to the making of the first atomic bomb. Bellman was an extremely prolific mathematician who initiated many new areas including Dynamic Programming and was simultaneously a professor in mathematics, computer science and electrical engineering departments. I had invited Halmos to visit India for a three months lecture tour and he had accepted. Later he informed me that, "I feel three months absence will make me out-of-date". This was just a reminder of the super-exponential growth of mathematics in the 20th century, when one has to run very fast in order to stand still.

Another book which gives the views of a large number of leading mathematicians, obtained through personal interviews with them, on mathematics, its excitement and fascination, is *Mathematical People: Profiles and Interviews* (Birkhauser) edited by B.J. Albers and G. Alexanderson.

A colourful book which was specially produced with a journalistic flair for the layman, and edited by Bergamini et al is *Mathematics: Life Scientific Library* (Time Inc.). A similar book is *Mathematical Snapshots* by H. Steinhaus (Oxford University Press). This book is also illustrated profusely by diagrams and figures.

Two great books on the nature of mathematics and geometry by two of the greatest mathematicians of modern times are: *What is Mathematics?* by R. Courant and H. Robbins (Oxford University Press) and *Geometry and the Imagination* by D. Hilbert and Cossen Vassan (Chalsea). The prerequisites for understanding these books are very modest.

The following ten anthologies contain between themselves more than one thousand essays on history, culture, excitement and relevance of mathematics. A large number of these essays deserve to be considered as masterpieces of literature.

- M. Kline : *Mathematics in the Modern World : Readings from Scientific American* (W.H. Freeman)
- D.H. Messel : *Mathematical Thinking in the Behavioural Sciences: Readings from Scientific American* (W.H. Freeman)
- COSRIMS : *Mathematical Sciences: A Collection of Essays* (M.I.T. Press)
- T.L. Saaty & W. Weyl : *The Spirit and uses of Mathematical Sciences* (McGraw Hill)
- J.R. Newman : *The World of Mathematics* (4 volumes) (George Allen)
- B.N. Campbell et al : *Mathematics: People, Problems, Results* (3 volumes) (Wadworth)
- A.D. Alexandroff et al : *Mathematics, its Methods, Contents and Meaning* (3 volumes) (M.I.T. Press)
- L.A. Stien : *Mathematics Today* (Springer Verlag)
- L.A. Stien : *Mathematics Tomorrow* (Springer Verlag)
- W.L. Schaaf : *Mathematics, the Great Heritage* (Harper)

I found in my younger days the book '*Mathematics and the Imagination*' (Simon & Schuster) by Kasmer & Newman quite exciting. Even some of my philosopher friends found it easy to understand and we used to have long discussions on the concepts of infinity and space filling curves discussed in this book.

Many students who have to stop studying mathematics after the high school stage are still anxious to understand this queen and servant of science and are prepared to undertake some appreciation courses in mathematics. Many books have been written as textbooks for this purpose. Some of these are the following :

- S.K. Stien : *Mathematics, the man-made universe* (W.H. Freeman)
- A. Bach et al : *Excursions into mathematics* (Worth Publishing)
- J.B. Fralaigh : *Mainstream of mathematics* (Addison Wesley)
- H. Eves & C.V. Newson : *Introduction to Foundations & Fundamental Concepts of Mathematics* (Holt Reinhart)
- W.R. Fuchs : *Mathematics for the Modern World* (Macmillan)
- J.R. Jacob : *Mathematics, A Human Endeavour* (W.H. Freeman)
- P.J. Davis & R. Hirsh : *The Mathematical Experience* (Penguin Books)

The following two books discuss the foundations of mathematics and the conditions favourable for its growth:

- R.L. Wilder : *An Introduction to Foundations of Mathematics* (John Wiley)
- R.L. Wilder : *Evolution of Mathematical Concepts* (John Wiley)

A recent book on mathematical sciences namely *Chaos, The Making of a New Science* by J. Gleik (Viking) proved to be a best seller in USA.

Stories of lives of mathematicians constitute an important part of the literature of mathematical sciences. We have already referred to E.T. Bell's *Men of Mathematics*. A similar important Indian contribution to this literature was *Eminent Mathematicians of the Ninteenth Century* in 2 volumes (Benaras Mathematical Society) by Ganesh Prasad. More recently I have written four volumes of biographies of *Eminent Indian Mathematicians of the 20th Century* (Mathematical Sciences Trust Society).

The literature of mathematics is studied with gems of thought on the nature and philosophy of mathematics by famous mathematicians and scientists of all times. As I went through this literature I went on collecting the great thoughts and these were published in the following 3 books :

- J.N. Kapur : *The Spirit of Mathematics* (Arya Book Depot)
- J.N. Kapur : *Thoughts on Nature of Mathematics* (Atma Ram & Sons)
- J.N. Kapur : *Thoughts on Mathematics Education* (Atma Ram & Sons)

In my book *Nature of Mathematical Thinking* (Mathematical Sciences Trust Society) I have explained the processes of thinking of mathematicians and have illustrated these processes with examples from school mathematics.

Volume VIII of my '*Fascinating World of Mathematical Sciences*' contains detailed reviews of some of the above books and of about 100 exciting articles which themselves form a part of the literature on mathematical sciences.

Mathematics is a wonderful subject and its applications are at the foundations of modern science and technology. Most of this mathematics is a closed book for the common educated man because of the high degree of symbolism and abstraction used by mathematicians for convenience of communication among themselves. However the above books about mathematics and its applications can all be understood by him. Anybody going through some of them will realise the truth of Bertrand Russel's statement :

"Mathematics rightly viewed posseses not only truth but also supreme beauty .... The true spirit of delight, the exaltation, the sense of being more than man which is the touchstone of highest excellence is to be found in mathematics as surely as in poetry. What is best in mathematics deserves not only to be learnt as a text but is to be assimilated as a part of daily thought".

The above pieces of mathematical literature will convince every one that mathematics, poetry and music have a great deal in common and that mathematicians can become poetic and create great literature when they write about their subject.

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ASK FOR NO MORE

Joachim B. G. Hoffmann*

As an outsider and as a non-Indian observer of the Indian university scenario since the past five years, I would like to recall my impressions on the Vice-Chancellors, whom I have had the opportunity to meet officially or informally, before commenting about the book review. I have met Vice-Chancellors of the internationally acclaimed Indian universities, as also of those which are regional/provincial in nature; Vice-chancellors with very high and impressive profiles and otherwise; Vice-chancellors with very good academic and scientific reputation, with long tenures in the teaching profession and highly acclaimed in their fields of study, as also the "pure administrators" from the government cadre -- no doubt very efficient and capable.

Before taking up my assignment in India, I never realised what it takes to be a "Vice-chancellor" in an Indian university and it is rather difficult to compare the position to that of a Vice-chancellor of a German university. Of course, both are responsible for running academic institutions, but with entirely different priorities and circumstances. The constraints and difficulties faced by the Vice-Chancellors in Germany with regard to administration, management, finance, manpower, number of students and its effect on the teaching process, are much more than those faced by a Vice-Chancellor of an Indian university. On the other hand, the influence of local and national politics and the involvement of the Vice-Chancellors in it is much greater than that on his counterparts in Germany.

Since 1984 I have come across three publications, which deal with the experiences and fates of Vice-Chancellors of Indian universities :

The first one, published in 1984, "*ASKING FOR TROUBLE -- What it means to be a Vice-Chancellor today*" by Dr. Amrik Singh, who was the Vice-Chancellor of Punjabi University, Patiala, and for over 15 years the Secretary of the Association of Indian Universities.

The second is a "*Report on Dismissal and So-called Resignation of Vice-Chancellors of Bihar Universities and Dr. H.S. Gour Vishwavidyalaya, Sagar, in 1988 -- Appointment of Vice-Chancellors, Their Security of Tenure and Some Related Issues*", published by the Association of Indian Universities, in 1991.

The third one, the book I am reviewing, is "*The Vice-Chancellors Remember*", jointly edited by M.V. Mathur and Ramesh K. Arora (Associated Publishing House, New Delhi. 368 pages, 1992, Rs. 350.00). It contains contributions of 27 ex-Vice-Chancellors, of whom two are still Vice-Chancellors. All of them, born between 1910 and 1930, have had long and outstanding careers as teachers at Indian universities.

The book also contains a valuable and interesting introduction -- The Vice-Chancellors: Profile, Performance and Predicaments -- by R.K. Arora and a chapter with closing remarks -- Conclusion: Reflections on University Administration -- by M.V. Mathur.

It is not within my purview to comment on the internal politics in India and the involvement of Vice-Chancellors in local politics and the day to day working of the universities. But I might be allowed to point out that the book under review hardly contains any mention or comment on international or bilateral academic relations and cooperations. The Ohio State and Illinois University mentioned in connection with the formation of the Indian agricultural universities on the pattern of the Land Grant universities in USA, and the exchange programme between Cochin and Rostock (in erstwhile GDR) to build up a ship building faculty, are the only exception.

I must, however, add that such a collection of texts compiled by Mathur and Arora can be highly recommended for international observers or for people from countries with close academic and scientific ties with India and Indian universities. It is impossible to observe and even to learn about the present day status and affairs of institutions of higher education in a country, which has now over 190 institutes of university standard.

An outsider, reading this book should, however, always keep in mind what Dr. Amrik Singh has written, as closing remarks, in the second chapter of his book "*Asking for Trouble*":

"While any kind of a job where public dealing is involved is full of stress and strain, perhaps no job in India is more stressful than that of a Vice-Chancellor. A Vice-Chancellor is usually at the receiving end. His success or failure lies in standing up to it with grace. Pressures there would always be upon him. Whether he submits to them or not is what counts."

**Since 1961 administrative staff member of German Academic Exchange Service in Bonn (GAES - Deutscher Akademischer Austauschdienst - DAAD), Director of New Delhi Office of DAAD since 1987.*

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HIGHER EDUCATION IN INDIA

Quest for an Alternative Financing System

K.K. Balachander*

I

Introduction

Ever since 1950, higher education has been the fastest growing part of the education system in India. With 193 universities and deemed-to-be-universities and 7000 colleges, accounting for a total enrolment of over 40 lakhs, and an annual expenditure of about Rs. 1000 crores, it has now become a truly large system. India has now the third largest higher educational network in the world. Enrolment in higher education accounts for 40 per cent of the enrolment in the developing countries. Every eighth student enrolled in higher education on the globe is an Indian. Currently over 2,50,000 teachers are engaged in the system (which is equivalent to the total enrolment in higher education just before Independence). However, the simultaneous pursuit of the three goals of quantity, quality and equality has introduced many perplexities in the Indian higher education system in recent years. The cumulative deleterious consequences of irrepressible pressures of expansion have now begun to manifest themselves particularly on the financial front. The prevailing situation is considered unsatisfactory from the point of view of the growing expectations, the demand on the system being far greater as compared to inputs and availability of resources. The principle challenge facing the policy makers has been how to reconcile what the people want and what the government can afford. It is obvious that higher education in India will be subjected to more pressures in the years ahead compelling it to take major decisions on the financial front. The gap between expected requirements and the possible allocation of resources from public funds is likely to be substantial. The effect of the process is now becoming painfully clear. Many state governments are now claiming that elementary education is their first priority, and the axe has fallen on higher education.

Growing Financial Squeeze

During the last few years, there have been many critiques – coming mainly from the discipline of Economics – stressing the profound (financial) crisis in higher education. The policy makers in India, it appears, had not examined sufficiently well in advance, the financial implications of expansion; the devising of appropriate methods of financing (higher) education – that take into account social objectives as well as qualitative upgradation – was brushed aside as a 'second order' problem by them. The search now for an alternative model of financing higher education has come from a belated recognition of the fact that any measure to expand higher educational opportunities, without prior examination of its financial consequences (and impact on quality) would prove to be self-defeating. A sound financial base is the *sine qua non* for building a modern higher education system which would be both efficient and equitable. The success or failure of higher educational reforms depends not only on how these reforms are planned but how these reforms are financed. Without adequate financial support, higher educational reforms would end in dismal failure, and this is being witnessed today.

Information Base: Constraints

Though higher education has become one of the largest organised activities in India both in terms of enrolment and expenditure, there are many shortcomings in the preparation and availability of enrolment and financial data. This limits the carrying out of research studies with a significant degree of accuracy and realism. Many Indian scholars have drawn attention to the difficulties which are inherent in any discussion on questions of higher educational growth and finance arising mainly out of the great heterogeneity in financing higher educational institutions among different Indian States, and similar types of institutions in the same State. Besides, in India, the sources of decision making and planning of funds for higher educational development are found in a loose series of interrelationships among the Planning Commission at the Centre, the Union Ministry of Education, the UGC, Ministries of Education in the States and over 190 universities and 7000 colleges majority of them being managed by private enterprises. The procedures of grant-in-aid differ from one agency to the other. Even in the case of the same granter, the grants-in-aid are different for different grantees and different purposes for which grants are made. This does

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bring in the importance of coordination between the different grant giving authorities and the demarcation of responsibility so that it will avoid overlapping and help compilation of data in a planned and systematic manner.

II

General Discussion

Even with these limitations, the problems and perspectives of growth and financing of higher education in India have been eliciting keen interest among academics and it is heartening to see that a number of individual scholars have conducted studies on the variegated aspects of financing of education as a whole, as also pertaining to the different levels of education. it is very difficult to give in a short compass a full picture of the studies made in the field. Only the issues raised in a few studies are highlighted.

Considerable amount of research in this area has been done, and is being done, in some of the universities and other reputed institutions like the Association of Indian Universities (AIU), the National Institute of Educational Planning and Administration (NIEPA), the Indian Council of Social Science Research (ICSSR) and the Indian Institute of Education (IIE). Some of these institutions have even set up separate research cells in Economics of Education. Besides, the adoption of the latest quantitative techniques have added greater precision to the analysis. Educational finance is now shaping into a respectable field of academic enquiry.

At various Seminars/Workshops/Conferences organised under the auspices of the UGC, the NIEPA, the AIU, the ICSSR, the IIE and other bodies (the Proceedings of some of them have since been published), the problems relating to financing of higher education have been discussed in detail. Some of the papers read at these Seminars etc. are useful additions to the existing literature on the financing of higher education in India.

The monumental Education Commission Reports (of 1948-49 headed by S. Radhakrishnan and of 1964-66 headed by D.S.Kothari) have studied the issue of higher educational finance in detail and urged the need for many reforms in the system. The latter has rightly emphasised the need for removing the *ad hocism* in financing higher education and placing the institutions on sound financial footing under clearly laid down norms. The Task Force set up by the Education Commission (1964-66) on Educational Finance (with M.V.Mathur as Convener) had presented estimates of educational expenditure for the period 1966-1980, and had drawn attention to the magnitude of resource mobilisation to be made in the future. The Commission had also observed that the expansion of higher education in India should be planned broadly on the basis of general trends regarding manpower needs and employment opportunities. The love's labour of the Commission was however lost in the dust of oblivion. After a gap of nearly twenty years, the Document *Challenge of Education - A policy Perspective* (1985) has again identified the shortcomings, proven and glaring, of the existing pattern of financing higher education and indicated the direction of change. It has drawn attention to the deleterious consequences of inadequate investment in higher education. In his Foreword to this Document, the then Minister for Education has admitted that the "desired improvements have not materialised because neither the resources nor the measures for restructuring (education) were commensurate with the imaginative and purposeful thrust of the education policy adopted in 1968." Recently (1991) the Ramamurti Committee (for Review of the NPE-1986) recommended a significant increase in public expenditure on education – at least 6% of the GNP.

Some Important Studies by Individual Scholars

Misra (1962, 1967, 1973) has made exhaustive studies of the grants-in aid system, the chief source of financial support to private sector education. He has given a historical account of the evolution of the grants-in-aid systems in India (during the ancient period, British period and early years of post-Independence period), the various types of grants, their determining factors, their sources, the methods of their assessment, the working of the system in different states and different countries, the status of private enterprise and so on. The discussion contained in the study, however, has more relevance to school education than to higher education. He has stated that though the age old basic principle of grants-in-aid was to stimulate local effort and cooperation in education, finding it not readily forthcoming during the post-Independence period, the Government had no other alternative but to increase the quantum of grants. Public munificence dwindled and even when forthcoming, the donors insisted on an effective say in the affairs of the institution. In his study on "Grants-in-aid in Education" he has listed out the five characteristic principles of grants-in-aid - resource adequacy, flexibility, stability, simplicity and security.

Azad, in his study, *Financing of Higher Education in India* (1975), has discussed the relative contribution of different sources of finance, the roles of Union and state governments and the lacunae in the patterns, procedures and policies of state grants-in-aid to institutions imparting higher education. He had warned then : "In the present economic situation, it does not need a gloomy prophet to predict that Indian education, as well as higher education, will have to live with a long period of scarcity of resources – financial as well as physical". He had also reviewed the contribution of tuition fees to the income of higher education in the light of inadequate financial resources and student aid programmes. The suggestions made by the author for a more rational distribution of responsibilities between the UGC and the state governments were very pertinent. This study made a significant contribution to the literature in the field and generated a number of studies later in educational finance. In his second study, *Government Support for Higher Education and Research*, **(1984)** Azad has analysed critically the patterns, procedures and policies of funding higher education and research by central/state governments and their specialised agencies like the UGC, the ICAR, the ICMR and the ICSSR. He also examined certain basic policy issues pertaining to government support with particular reference to some current practices introduced by the state governments like salary grants, incentive grants, etc. In order to study the problem in depth, he also undertook micro-level investigation in four states representing four regions of the country (Andhra Pradesh, Orissa, Haryana and Gujarat). The study has attempted to highlight the distortions and dichotomies that the system of higher educational finance has developed over the years. He had also pointed out the differential treatment meted out to Central and State universities in respect of grants. In a third study *Higher Education in India – The Deepening Financial Crisis* (1988), Azad has taken a close look at the entire gamut of higher educational finance including the mechanism of financial management of higher education – at institutional, state and national levels – and has made some suggestions for streamlining the same. What is particularly valuable in the study is the inter-state comparisons attempted in the financing of higher education. In his Foreword to the book, Malcolm Adiseshiah has drawn attention to the sharp decline in fee contributions after Independence. He suggests that fees should play the same important role as they played earlier since government resources are limited and there are competing demands on the same.

The various papers brought together in a volume *University and College Finances* (1981) by Amrik Singh and Sharma cover the whole ground of university/college finances admirably with an excellent Introduction by the editors. One important conclusion that emerges from this study is that a large number of financial ills and non-achievements of institutions of higher education could be traced to the system of grant-in-aid policy pursued by the state governments and other fund-giving bodies. While deciding grants, these bodies hardly take cognizance of economic and educational indicators. Also attention has not been given by them to development of institutions in backward states and this has aggravated the problem of regional imbalance with regard to higher educational development. It has also been pointed out that there has been a steep fall in contributions from private sources (fees, donations, endowments, etc.) and the gap between 'per pupil' expenditure and 'per pupil' income has widened over the years. The existing grant-in-aid system has led to extension of liberal subsidy to those who have the capacity to pay more by way of fees.

A better understanding of the financing of higher education can be obtained not only from macro-level aggregative studies but also from micro-level studies. Realising this the Indian Council of Social Science Research had sponsored some studies on the finances of individual universities. (Calcutta, Kerala, Patna, Rajasthan, Karnataka and Bombay). These micro-studies have raised a variety of specific issues relating to university finance such as the relative importance of various sources of income of the universities, their magnitude and trends, whether they are steady and adequate or whether the universities are subject to financial stresses and strains, the expenditure objectives of these institutions, their financial relations with the state governments, University Grants Commission, etc. However, with two or three exceptions, most of these studies give a descriptive account of the dimension of university financing in a historical perspective. They have examined the basic facts and figures of university income and expenditure over the years as revealed in the various documents of the university, and have attempted to derive certain generalisations on the basis of this examination. The value of these studies could have been enhanced if factors impinging upon university finances as also their ramifications had been subjected to a critical scrutiny. The financing of university education, if studied within the general framework of economics of education, would still be a step forward. Questions like whether the individual institutions are making enough efforts to mobilize their own finances, whether the resources allocated to the institutions are optimal, and within the institution itself, whether the allocation among the different departments is optimal, whether the resources are being utilised efficiently and economically, whether there exist economies of scale to be realised, etc., will naturally arise while undertaking a study on the financing of an institution like the university. With such an approach, it will be possible to analyse the various aspects of the financing of an institution, and to develop some general principles of resource mobilisation and resource utilisation. Panchamukhi in his study *Economics of University Finances* (1977), has made a valiant attempt to develop some theoretical insights into the working of the finances of one of the oldest and reputed institutions of higher education in India, the University of Bombay, and has arrived at some important conclusions with regard to fee-rate policy, principles and practice of grants-in-aid, the role of auxiliary enterprise in universities, etc. Although the analysis has been restricted mainly to Bombay University, the conceptual framework built therein holds good to the situation obtaining in many other universities. According to him, if the total grantable resources are limited and the resource cost of providing higher education is high, the efficiency objective deserves considerable weightage. From this angle, he argues that it would be advantageous to give more capital and revenue grants to old established institutions; otherwise, the resources will be too thinly spread resulting in sacrifice of economic efficiency in both old and new institutions. Certain norms for optimum working of an institution will, therefore, have to be laid down taking into consideration the facilities and the number of students. Starting of new institutions for higher education, according to him, has meant starving and squeezing of older and better organised institutions. Panchamukhi has also argued that fees should not only be an important source of finance in higher education but also it should be a policy instrument for apportioning students to various faculties/courses in accordance with manpower requirements. Thus apart from the sound economic logic of a well-planned fee system for allocative efficiency, it can be justified on the grounds that it will have tremendous potentialities as an enrolment planner in the context of manpower planning. The elasticity of substitution of enrolment in different lines with respect to fee rates, the author states, is very high in the case of higher education in countries like India. Another significant point that emerges from Panchamukhi's study is the quite substantial subsidy that the students at the Bombay University get on account of lower fees. As far as the state grants are concerned, the author comes to the conclusion that the whole system appeared to be characterised by complexity and *ad hocism*. He has also referred to the less rational distribution of responsibilities between the UGC and the state governments. (This had also been pointed out by Azad). Another interesting conclusion of Panchamukhi is that while the academic departments of the university have claimed a lesser share in total university expenditure, that claimed by administrative and supporting services has increased substantially. Sharma in his *Educational Costs of University Education* (1980), had also highlighted the lopsided growth of the university set up as indicated by the disproportionate expenditure on maintaining an expanding administrative infrastructure and the low priority accorded to academic aspects of university education. In another study *Economics of Educational Finance* (1989), (as part of the series in Educational Reforms in India, IIE), Panchamukhi has further tried to develop some conceptual insights into the different sources of educational finances such as grants, fees and donations. He has also dealt in detail with the change in volume, composition and modes of financing of educational expenditure in India during the post-independence period. He has identified some new and unconventional sources of educational finance, especially at higher levels, and suggested a few measures for efficient utilisation of available funds. According to him, before claiming more funds, the higher education sector itself has to augment internal funds from cost savings by trying a number of financial reforms. Some areas that could be researched further have also been mentioned in the study.

The state universities, especially the old and large ones, are now reeling under severe financial strains and are saddled with huge budget deficits. The deteriorating financial position from year to year of the six (non-agricultural) universities in Maharashtra has given rise to a serious concern. The universities continued to accumulate heavy overdrafts which they found difficult to wipe off. Against this background, the Government of Maharashtra set up a Committee in August 1981 to make suitable recommendations on the basis of a study of the expenditure and receipt patterns of these universities from the year 1974-75 onwards. The Committee in its Report (August 1982) has observed that while university education made rapid strides quantitatively, the finances of universities have become increasingly chaotic. A financial collapse of the system is imminent with its far-reaching adverse repercussions on the universities and their credibility. The Committee has recommended several measures to relieve universities of their immediate as well as long term financial woes, so that these institutions can devote their undivided attention to 'academic excellence' which the society expects from them. The Committee also expected the universities to be cost conscious and go in a big way for mobilisation of additional non-governmental resources; especially the tuition and other fee-rates for postgraduate courses, which are too low at present, should be raised by at least 20 percent over a period of five years.

Nanjundappa (1976), in his study on the *Working of University Finances* (with a micro-analysis of the financing of the Karnatak University by way of a case study) states that (i) although there has taken place a phenomenal growth in aggregate expenditure (Karnatak University), it has not kept pace with the growth in enrolment; (ii) there has been a marked decline in 'per pupil' expenditure reflecting a fall in the facilities for higher education which do not augur well for the future of university education; (iii) the growth of UGC grants is very small when compared to those of the state government – the 'per pupil' grant (UGC) has been found to be negative at constant prices; (iv) a growing gap has developed between the cost of higher education and the fees charged and that the existing fee structure does not take into account the income-earning capacity of the educated; and (v) there is, therefore, need for a closer alignment between costs and fees, and it should be supplemented by a more liberal scheme of scholarships and freeships for those who deserve them on merit and poverty consideration. Society at large should eliminate indiscreet subsidies and make financing of higher education more equitable. The author has expressed his doubts about the utility of the existing (direct) method of financing of higher education through grants by the state government and the UGC and has suggested an alternative method of finance – the loan system – which will permit a closer alignment between the cost and fees. In the repayment of the loan by the students, some element of subsidy could be incorporated. Such loans may be made available to all potential students with the necessary academic standard and belonging to low income groups on the condition that they enter into a contract to repay the loan without interest after they reach the earning stage, in instalments spread over the average earning span of their life. Sharma (1981) has also suggested almost a similar method of financing higher education in India, which he calls as the TPL Plan (Tuition Postponement Loan Plan). This method of financing, he feels, would help to correct the existing anomaly of higher private rates of return on investment in human capital over the social rates of return as also mobilise resources for higher education, as the scheme provides for an increase in the tuition fee to the level of half of the tuition costs.

In his study on '*Resource Allocation on Education – An Inter, Intra-Country and Inter-temporal Pattern Analysis*' (1978), Sharma has made an attempt to examine the magnitude, processes and patterns of allocation of resources to primary, secondary and higher education in India, whether there has been systematic planning in the allocation of funds, whether the allocation of resources by the state governments is related to state income, whether there existed wide inter-state variations in this regard, etc. The study covers only two points of time, 1971-72 and 1975-76. The author has come to the conclusion that (i) economically advanced states spend a smaller proportion of SNDP on education and vice versa; (ii) the pattern of allocation of resources at various levels of education varied among the states; and (iii) there appeared to exist lack of planning in allocation of resources to various levels of education. He has also analysed the factors influencing state grants and expenditure on higher education.

At the intermediate level, (*i.e.*, between the All India and institutionwise analysis), Lakdawala and Shah in their work, "*Optimum Utilization of Educational Expenditure in Gujarat*" (1978), have studied the problem of higher educational finance for the State of Gujarat. Such studies are useful both for understanding the situation and for suggesting policy changes in view of the fact that most higher educational policies are operational at the state level. The above study deals exhaustively with the educational expenditures of Government of Gujarat and the finances of the three universities in the state for the period 1960-61 to 1969-70. It has also examined the unit cost in colleges and the economic and optimum size of colleges. Besides, a socio-economic study of university and college students in Ahmedabad has been undertaken. The study of Chalam, *Finances, Costs and Productivity of Higher Education* (1986), provides an insight into the finances and productivity of higher education in Andhra Pradesh with the help of macro as well as micro data of the system. He has identified the directions in which public/private funds flow and evaluated the same. A clear look at the finances and unit costs of higher education has led him to conclude that the devolution of grants-in-aid scholarship schemes, and free-rates are not always based on rationally devised criteria. There appears to be some sort of *ad hocism* prevailing; the grants-in-aid policy is based mainly on the exigencies of the financial situation and other extra-academic considerations. He has also suggested alternative means of finances for higher education, such as a special levy on the manufacturing sector which is mainly the beneficiary of higher education and research. Fr. George in his *Economics of Higher Education in Tamil Nadu* (1984), has studied the various economic aspects of higher education in Tamil Nadu (based on first hand personal field investigation) one of which is how do students finance their education and who are the real beneficiaries of the system. According to him, by and large, greater benefits have been derived from higher education by urban-based families. He finds that the 'per student' expenditure at the higher education level in Tamil Nadu has been declining; or, in other words, larger numbers have been accommodated at the expense of decreasing allocation of educational resources 'per pupil' and deteriorating academic standards. He also finds that with the fast decline in contributions from private sources like fees, donations, endowments, etc., the government has emerged as the largest source of finance for higher education in the state. He states that a huge amount of subsidy is being extended indiscriminately to all regardless of their income-levels as also their capacity to profit by higher education. He has suggested that students may be made to pay for their higher education proportionately to their income level. The focus of Mathew's study *Financing Higher Education : Sources and Uses of Funds of Private Colleges of Kerala* (1991), is on the financing of higher education in the private sector in Kerala with a view to finding out the extent to which finance constitutes a restraint on its performance, for which he has collected data from a sample of 25 arts and science colleges. He concludes by stating that a lasting solution to the problem of inadequate finances is to permit colleges to charge higher fees with adequate safeguards to protect the interests of students belonging to the weaker sections. His analysis of the expenditure of sample colleges has shown that apart from payment of salaries of the staff – teaching and non-teaching – most colleges spend only meagre sums on the upkeep of institutions, the accent is on survival and not on development. He further observes that apart from the immortality and illegality of the practice, funds mobilised by way of compulsory donations often do not help; they are not often used for the legitimate needs of the colleges. Also it is most likely that a major proportion of donations collected by the managements are not shown in college records at all. The exhaustive study of Kurup and Thatte (1991) on *Pricing Higher Education* (A Case Study of Maharashtra) is the first of its kind in India based on primary data and dealing with institutions of general higher education (undergraduate stage). According to the authors, there is an undeniable resource-crunch in the higher education sector and this has affected quality as well as quantity. Since the government is finding it difficult to provide funds and costs are escalating, there is no alternative but to increase the fee rates. Since the efficiency and equity gains from such a measure are large, these cannot be ignored in spite of its political unpalatability. This will also ensure a new level of academic performance on the part of the teachers as well as the students.

Education in most federations, unlike a unitary system, is provided by the states; as such, close coordination between the centre and the states is essential. This takes us to the problem of equity among the states in providing this important social service. When the state (and local units) have a definite role to play, when the major sources of finance are available with the central government, and also when educational developments in different regions are unequal, peculiar problems of centre-state and state-state financial relations would emerge. Purohit (1981) and Panchamukhi (1982) have highlighted some of these aspects in India in the context of the roles of the Planning Commission and the Finance Commission through whose broad scrutiny, by and large, all education expenditures of the governments of states and centre have to pass through before they are actually made. The situation as of today shows wide variations in educational expenditures among the rich and the poor states. Perpetuation of such inter-state inequalities, Panchamukhi states, "would be harmful from the point of view of economic advancement of the states and politically more explosive having implications for social stability". According to Purohit, the present system of allocation of grants by the states and the UGC is not such that leads towards equity among the states. Abu Baker in his study on centre-state relations in educational finance *The Union and State in Education* (1976), has examined the stautory and plan grants to education. He observes that there has been a considerable concentration of authority at the centre and the central schemes are thrust on the state governments without examining their efficacy or financial implications.

Besides the above studies, those conducted by Moonis Raza, Tilak, Varghese, Ansari and Mridula, under the auspices of the NIEPA, AIU, etc., on various facets of financing higher education would be of great value to policy-makers, scholars and others interested in educational finance. Each study is self-contained and provides useful information and analysis. Tilak and Verghese in their paper *Discriminatory Pricing of Education* (1985), have advocated a policy of discriminatory pricing in higher education to prevent the perverse effects of public subsidization. Together with it, a discriminatory system of 'incentives' has also been advocated so as to ensure (a) merit is rewarded, and (b) the less-privileged are benefited. The model suggested, according to them, will make the higher education system not only less regressive but also help in generating more resources. Tilak, in a later study *Financing of Higher Education in India* (1991), has presented a review of higher educational finances during the post-independence era, the shortcomings therein and the pros and cons of various alternatives available to generate additional resources for the development of higher education. Mridula in her publication *State Funding of Universities* (1985) has made an indepth study of the formulae, processes, adequacy, efficiency, flexibility and equity aspects of the system of block/maintenance grant-in-aid to 'state' universities. The study is based on the information/data collected from 57 universities and 9 state governments on the mechanism of financing (*i.e.*, the system of grant-in-aid) for the years 1968-69 to 1979-80. The issue of returns from investment in higher education has also been studied by a few scholars. However, these studies fail to provide an answer to the question whether the present balance between public and private financing of higher education is optimal, taking into account the large discrepancy between the private and social returns.

Though a number of official agencies and research workers have evaluated the role of different sources of finance for different types of higher educational institutions, and for the higher education sector as a whole, the interaction effects between public and private financing, (or, in other words, the role of different sources and their dynamics) and their combined effect on the development of higher education, has not received the attention that it deserved. These two are not independent of each other; the trends in one do have an effect over the other. A detailed study in this direction, both at all-India and state levels, can bring into sharper focus the exact magnitude of dependence of higher education on government grants over the years. The present author has attempted in a research study conducted in the University of Bombay in 1984 namely, *Government Grants and Higher Educational Development*, to bring together the above inter-linked issues, many of them (separately) thrown up by other studies, and tried to bridge the gap. It is based on a longer and exhaustive time base (26 years).

III

Pointers to the Future

Most of the (major) studies on higher educational finance in India, in quintessence, raise the following issues, and there appears to be a general agreement on them among the scholars. It can only be hoped that at a time when there is a rethinking on the existing pattern of financing higher education, the conclusions that have emerged out of the studies undertaken so far will be given the attention they eminently deserve by policy makers and planners.

(1) With the phenomenal rise in enrolment since Independence, there has taken place a continuous rise in expenditure on higher education which the government had somewhat underestimated.

(2) The tapering of private (non-governmental) resources for the development of higher education has resulted in the system depending on the government increasingly for meeting a major portion (about 80 percent) of its expenditure. The process of expansion has thus been accompanied by a widening gap between public and private funding of higher education – grants are gradually substituting fees. This was certainly not the role envisaged for private agencies when the grants-in-aid system was introduced in the country during the British period (1854).

(3) With the government finding it difficult to allot more funds, a financial crisis is looming large in the higher education sector. It is faced with the dilemma of satisfying the growing aspirations of the youth for college/university education on the one hand, and the government's inability to meet it with its meagre resources, on the other. There has already been a marked decline in 'per student' expenditure over the years, reflecting a fall in the level of facilities and academic standards. This does not augur well for the future of Indian higher education.

(4) A realistic approach to the financing of higher education has yet to take shape, although the inherent limitations of the existing pattern have been noted from time to time. The down-to-earth issue of sharing the cost burden between the government (by way of grants) and the users (by way of fees) should be tackled first. This should be done in such a manner that (a) the interests/gains of both the society and the students are well recognised, and (b) the whole sector of higher education gets stimulated and becomes really 'higher' in terms of quality. In this context, it has to be noted that the present system of financing higher education, involving a substantial amount of subsidy (and extended indiscriminately to both the privileged and the under-privileged), is highly inequitable. Majority of the seats in higher educational institutions are appropriated by those belonging to the well-to-do sections of society, and, naturally, the benefit of subsidy has mostly gone to them. Under the existing situation, to defend the liberal subsidy given on the ground of social and economic justice is therefore a monstrous perversion of truth.

(5) In a situation of resource scarcity, there is an urgent need for looking at the effectiveness of higher educational expenditure on different items, apart from salaries. There is a continuing need to discover the benefits of different lines of action, and see that the resources flow to appropriate

channels. Considering the fact that educational expenditures are now regarded as investment in human resources, every effort must be made to see that the rate of benefit in financial terms, as measured by skill enhancement, contribution to development or any other factor, in each line of specialisation, is high. Universities and colleges will have to devise adequate academic and administrative authority and procedures for the appropriate and effective utilization of available resources and institutional aids.

(6) Many important objectives the government had set before it to achieve through public grants still continue to be unrealised. Especially, over the years, the problem of regional imbalance in higher educational development has got aggravated. There are striking inequalities among the states in providing this important service and its financing.

(7) There has been a lack of clear and rational delineation of the functions between central (UGC) and state governments, the two major funding agencies. A large number of financial ills and non-achievements pertaining specially to development programmes, could be traced to this cleavage. Now that education is under the 'Concurrent' list, there is scope for the UGC to be associated more effectively with the growth and financing of higher education in the states. The principle that the federal (central) government should play an important role in the financial support of university education (and research) has been firmly established in many advanced countries. In India, the centre's role has become all the more important particularly in the context of achieving many of the objectives set out in the recent National Policy on Education (1986). The state universities, though sponsored by the state governments, should be treated an integral part of the national university system and the glaring disparities between them and the central universities in the allocation of grants should as far as possible be removed. Such a step will enable the state universities to prevent the steep fall in academic standards and play an active role in the development of university education in the country. The effective long-term stability of these universities should be an important consideration in public policy.

IV

Conclusion

To make higher education in India 'dynamic as never before' or 'one vibrant with a commitment to development and change', a well-defined, bold and goal-oriented policy with regard to its financing is, absolutely essential. A policy of *ad hocism* or 'fire-fighting' approach will not do; the situation demands long term permanent measures with a definite direction. The time has now come for the policy makers and the academic community to jointly devise such a financing mechanism that will reconcile (or square the triangle of) quantity, quality and equality. The public financing of higher education, determining taxes and grants, would have to be anchored in such a way that it reaches the desired goals of achieving justice in access to higher education, keeping the intergenerational equity as a welfare criterion, and upgradation of quality. The challenge of the future is really a challenge of change.

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Discordant Co-existence Modernity in Philippa Gregory and Irving Wallace

Mustufa Khan*

The concept of modernity is in a state of fluidity. For it is never the same from one individual writer to another in time or place. Nor can it be ubiquitous. It is rather a tendency that surfaces in a work of literature – a tendency to open up something hidden and to capture it in a form that was never done before. A writer explores new grounds. The new grounds are interspersed with fallow fields lying nearby. What is new co-exists with what is old. The new often matches the new trends and the old is conveniently brushed aside. A writer who is modern in one aspect is quite traditional in another. His literary output betrays this discordant co-existence. However, to say this is not to deny modernity itself, which is an on-going process of grappling with the fast moving time and still faster moving art of writing. Therefore, there is ever a need to define literature and modernity.

In this age of pluralism it is not quite unexpected to begin with certain determining factors of modernity. The quintessence of modernity is the breaking of new grounds. This nascent tendency becomes the governing principle of literature sooner or later. It is not the scintillating star but the lime-lighted comet. A phenomenon of rare appearance, rather than an event of every day, that attracts the viewers. As of today the last decade of our century has begun petering out. The hour glass is emptying fast. The birth of the new century is fascinating at the threshold. The shrinking of the geo-political world – best symbolised in the pulling down of the Berlin Wall and the disappearance of the Iron Curtain – is co-existent with the Chinese Wall and the Wailing Wall. Peking is Bejing and nothing more than that.

But literature is not as temporal or spiritual as the poster campaigns on the walls of Tiananmen Square once were, nor are the writers of literature the Gang of Four. This holds true despite the writers holding fast to any ideology. There was a time when D.H. Lawrence was suspected of spying for the Germans just because he happened to have a German wife. So much changed in the course of his life and after his death his wife went to another man. The British were wrong to suspect him, and his wife in breaking the sanctity, if not of marriage, of his philosophy, his tendencies and inclinations. But the tendencies live in his works.

Tendencies appear in literature. They accrue from time to time. Sometimes they lie dormant, and at other: hibernate or hatch. They return but never die. It was Lawrence who was unprecedentedly very much engrossed in the life of the body. In him merges the thematic novelty of what was at the most implicit but never explicit and the form of his works which was a brilliant attempt at intuitive capture of the thematic constant. Be it the 'rainbow' which signifies an affair that was destined to be evanescent though spiritually perennial, or the brush of the fox, he dealt with human relationship in an unparalleled enthusiasm of thought and feeling. This novelty has been crystallised in such phrases as life of the instinct, blood relationship, the significance of touch. It was pioneering work of a man who was then the first to emerge from the working class.

The present is much different from the past. The new breeze that blows in the new world order of President George Bush and the desire of the British Prime Minister John Major to give equal opportunity to everyone in order to make society classless are the aspects of today. It is but natural that writers like Philippa Gregory and Irving Wallace should be different from Lawrence. In what way do they differ? In what do they break from the past?

There is a good deal of romance in Lawrence's *Lady Chatterley's Lover*. Some of it is present in Philippa Gregory's *Wideacre* (Viking, 1987) and Irving Wallace's *The Celestial Bed* (London: Michael Joseph, 1987). But not quite the same. The heroine of *Wideacre*, Beatrice, is very much obsessed with the material possession of the Wideacre. Primogeniture and entail are fixation with her. She is worried about her eventual marriage and departure from the Wideacre :

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> 'Yes, she's a good girl and as sharp on the land as a bailiff for all she's so young. But she'll be off to marry some lord or other some day, and young Harry will take my place. He'll be all the better for his learning.
>
> .....There was a silence. A long, country silence punctuated with the springtime birdsong. There was no hurry on that timeless afternoon which marked the end of my childhood.' (p. 24)

Her deep rooted lover for the Wideacre leads her to acquiesce in the murder of her own father by the gamekeeper and her lover, Ralph, her plot to kill the killer, her incest with her brother Harry, the European tour and the illegitimate birth. These are all marked with the 'local colour' of the blue films of our time. Or else what could one make of :

> 'I clung to him, begging him to move faster and faster, harder and harder. I groaned like a dying man as easy passion overwhelmed .... the pleasure that had gone so fast and left me so empty.' (p. 71)
>
> ..... in seconds I was screaming. My legs and arms grabbed him to me and we writhed like frantic adders. With a great bellow Harry collapsed and lay still and I, hungry, greedy, insatiable, arched my back on the soft downs turf and rubbed and rubbed against him till I gave a great sigh of release and lay still. (p. 125) ?

What becomes clear is the absence of spiritualism of the old master. In this age of Video Cassette Recorder the book is strained and stretched to ape the visual blasphemy. Gone with the wind is the act of pornography which held up the old master on his odyssey like the sorcerer Siren.

The violence and sex in Philippa Gregory and Irving Wallace remind us of Lawrence. But unlike him Gregory and Wallace catch the eye of the reader by the stylized behaviour of their characters. This is something Lawrence had not thought of. It appears as though the form is there but the spirit is missing in Gregory and Wallace. Lawrence's concern with the body is the essence of spiritualism. They make different impressions on the readers. It is the unheard voice of the human relationship that captivates the readers to Lawrence, whereas, Gregory and Wallace vie with each other for the exploitation of the audio-visual effect. The two know quite well what cathartic result they intended to produce. Lawrence had the prophetic vision of regenerating the decaying race of mankind. Gregory and Wallace, on the other hand, have the specialised and researched journalistic fervour comprehended in an encyclopaedic berth of treatment of the issue. Lawrence's conviction was an article of faith. In the fourteenth chapter of *Lady Chatterley's Lover* the gamekeeper Mellors says :

> 'I do believe in something. I believe in being warm-hearted. I believe especially in being warm-hearted in love, in fucking with a warm heart. I believe if men could fuck with warm hearts, and the women take it warm-heartedly, everything would come all right. It's all this cold-hearted fucking that is death and idiocy.'

How shallow and fragmentary are Gregory and Wallace one can see in the latter's *The Celestial Bed*. Reverend Scrafield indulges in fellatio or oral sex with Darlene. After that the reverend of the Church of the Resurrection quotes with pervert pleasure to her 'Like W.C. Fields used to say, "I never drink water because fish fuck in it." ' (p. 46) That there is no spiritualism in the love making of such an avowedly spiritual man as Reverend Josh Scrafield is plain in Darlene's meditation :

> 'But lately there was no more bed. There was only this. She wondered if, turning forty, she had become less attractive to him. Her blonde hair bleached brighter, her face puffier, her large breasts drooping further, and a bit thicker around the waistline and hips. Or was it simply that he had tired of her somewhat, become more impatient, and had aged himself and wanted to be relieved more easily without having to work it?' (p. 46)

There is, furthermore, a clinical, rather than intuitive and organic approach to sex in *The Celestial Bed*. Sex therapy is in fact the major component of the plot. Nan Whitcomb is kept by Tony Zecca. When Zecca cannot enter Nan she approaches Dr Arnold Freeberg who provides Paul Brandon as a sex surrogate. Her problem is vaginismus : 'She's getting muscular spasms in the region to avoid any more intercourse with him.' (p. 63) She had no spiritual meeting of the mind and body. What is more agonising is Paul Brandon's rejection of her at the end in favour of Gayle Miller. Nan sees the promise of a spiritual fulfilment in Raul Brandon who escapes her attempt to reach such a union. Nowhere in Lawrence a character in such a situation shirks what he or she is instinctively compelled to undertake. Brandon's meeting with Gayle Miller is of sorts rather than of substance. Where does this differ from the marriage of convenience?

Thus, the modernity of these modern times and that of the old master at the beginning of the present century keep the way open for a better human relationship.

Remembering Chagla : The Voice of Secularism

S.V. Chindhade*

The Indian social firmament is studded with innumerable luminaries and Justice MC Chagla (b30-9-1900; died 9-2-1981) is one of them. However, unlike many of them, he has written his own life which he appropriately calls *Roses in December*, a redolent phrase borrowed from the Holy Bible : God gave us memory that we may have roses in December. Yes, barring a very few exceptions, these are all sweet memories of roles, responsibilities, performances and situations that reflect a life lived in the light of values and conscience. Today, when the country seems to be passing through a terrible turmoil of communal and fundamentalistic chauvinism, a lingering look at a life spent well and braced with convictions can perhaps act as a lighthouse for the young and the high strung.

Besides an uncompromising concern for liberty, justice, democracy and national integration, Chagla's autobiography *Roses in December* also displays an equally intense faith in secularism. Chagla points out that the unity of India is imposed by an independently existing geographical piece of land of this country. Unity is also a legacy of a common cultural and religious heritage. Especially the communal harmony between Hindus and Muslims is a result of the fact that more than 90 percent of the Muslims living in India were converted from Hinduism which is the primary religion of India. It was largely the policy of the British that brought about a communal rift in India.

Chagla thinks that one of the worst blows to national unity came when separate electorates were created by the British. This led to communal fanaticism. He thinks it wrong to equate religion with nationality. Religion is a purely private and personal matter. It should never be allowed to intrude into public affairs. Here, a question may be raised: Why did Chagla join a party called Muslim league? Chagla answers it as follows : Jinnah was an uncrowned king of Bombay when Chagla was young and impressionable. Jinnah was the President of the Home Rule League fighting against the British for the freedom of a united India. The Muslim League in those days believed in the cause of Hindu-Muslim unity and was a secular institution except for the name. Jinnah had no truck with the fanatical Muslims whom the Khilafat movement had instigated. The Muslim League wanted to fight this element and to make common cause with the secular Congress.

So long as Jinnah remained a nationalist and the Muslim League continued its national policy, Chagla remained with them. But as soon as Jinnah became communal-minded and advocated his two-nation policy, Chagla parted company both with Jinnah and with the League. Chagla had always taken the view that partition was a tragedy and a calamity. He believed that it was avoidable. Looking back on the entire history, Pakistan is a truncated country with Bangladesh thrown away as an Independent State, though not secular in its national policies.

As a legal concept, secularism means equality before law. It also means equality of opportunity, and [illegible] to classify citizens as first class and second class. Secularism is an attitude of the mind and a quality of the heart. It is a matter of temperament, of outlook, even of feeling. It sees all equal not only in the eye of law but also in the eye of God. It is a refusal to classify people according to religious labels. A man is not thought of as a Hindu or a Muslim but as a human being. Between the choice of religion and national interest, the latter must dominate. The government policy of pampering the minority of a religious group in India was thought by Chagla to be a threat to national unity. He even criticises the Congress Government for continuing to uphold and (indirectly) implement the British policy of communalism. This policy has demoralised the government from the application of uniform civil code, though the Constitution upholds and recommends it.

It were convictions such as these that led Chagla to help in the formation of the Indian National Party. The chief guiding principle in the manifesto was the good of the nation as a whole. Chagla opposed the Simon Commission (1927) so vehemently for this very reason that it would finally lead to communal disharmony. When he knew that the Muslim League rejected the Nehru Report (in relation to the Simon Commission) he resigned from the League.

It is clear from the autobiography that Chagla resolutely led his life in the light of conscience and secular convictions. This led him even to a breach with Jinnah whom he had once regarded as a friend, philosopher and guide.

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The Evangelical Legend in the Novels of M. Bulgakov and Ch. Aitmatov

A. Charumati Ramdas*

Use of allegorical devices in literature is not a new phenomenon. Writers have been using myths, legends, etc., in their works with various intentions in their minds. Whenever free expression finds itself imprisoned by the censors, masters of words resort to some other means of depicting reality. Many Russian and Soviet writers have used different myths and legends not only for the depiction of reality, but have even expressed their own views about the same through them.

Sometimes the same legend may be used in various pieces of literature for different interpretations, with different aims – as has been the case with the evangelical legend inserted in the structure of Mikhail Bulgakov's "*The Master and Margarita*" (1928-1940) and Chingiz Aitmatov's "*Plakha*" (The execution block) (1986). Both these writers have used the Jerusalem episode – the questioning of the Christ by the procurator of Rome - Pontius Pilate – as the background for narration. Each of them has described the incident in his own way : the description of Pontius Pilate and that of the Christ, the nature of questions asked by Pontius Pilate, the length and arrangement of episodes relating to the execution of the Christ. The link drawn between the historical and the contemporary, the message conveyed through these episodes, etc., have been dealt with by M. Bulgakov and Ch. Aitmatov in their own peculiar ways. The only similarity observed between the two, lies in the depiction of the Christ, who is shown as a supernatural, mythical figure, but as a common, real, down-to-earth person.

M. Bulgakov calls him Yeshua-Ha-Notsri, while Ch. Aitmatov refers to him as Jesus of Nazareth. Caiphas considers Yeshua an enemy of the Jews. He thinks that Yeshua, through his preachings, was taking people away from their religion ("*The Master and Margarita*"). But in "*Plakha*", Pontius Pilate addresses Jesus as 'The King of the Jews'.

M. Bulgakov's "*The Master and Margarita*" which he wrote during 1928-1940 was published only in 1967. It was an event which took the world literature by storm. "*The Master and Margarita*" is the finest novel of the century not only by virtue of its structure, not only by virtue of the blend of the real and the fantastic which makes it unusual, but also by virtue of the eternal problems it raises. It has not lost its significance even today and has been a constant source of inspiration to many works of literature. It consists of two plots closely connected with each other. First is the story of the Master and his beloved Margarita. Master writes a novel about Pontius Pilate which is never published in full. Only a small part of it is published and it causes a storm in the society. The Master is subjected to tremendous mental harassment through the articles of the so-called critics in a number of newspapers and he finally lands in a mental hospital. The novel about Pontius Pilate, so strikingly close to the life of the Master, is narrated by the devil Woland, who, along with his team of assistants, visits Moscow for four days. During these four days, many unbelievable miracles take place in Moscow, the guilty are punished, justice is given to those who were earlier deprived of it and the Master and Margarita are united and proceed to their heavenly abode. The novel by Master about the incidents in the holy city of Jerusalem is not merely plain narration; it is based on many parallels not only from the life of the Master but also from the Moscow of the 1930's. Yeshua-Ha-Notsri can be very easily discerned to be a prototype of the Master and also that of the author himself. Yeshua is subjected to physical death and the Master to the psychological. A similar fate links the Jesus of Nazareth with Avdii Kallistratov in Ch. Aitmatov's "*Plakha*" (1986). Structurewise, "*Plakha*" also is a complicated novel. Three plots apparently unconnected with each other are linked together firmly by the story about the wolves – Akbara and her mate Tashchainar. Akbara and Tashchainar are the cause of Boston's miseries, they are also mute witnesses to the tragic end of Avdii's life, who, a runaway from a seminary, identifies himself as the disciple of Jesus of Nazareth. Thrown out of a running train by collectors of opium seeds, Avdii, in a state of delirium, recollects the scene of his Teacher (Jesus) being sentenced to death. By virtue of phenomenon which Ch. Aitmatov terms as 'Historical synchronism', Avdii relives the moment that slipped into history about 2000 years ago and tries to save his Teacher from calamity.

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Chingiz Aitmatov uses the evangelical motif not only to pronounce a few of his philosophical thoughts, but also to show that Avdii – the prototype of the Jesus, meets the same end even today at the hands of not only one Pontius Pilate, but at the hands of four Pilates, viz., Ober Kondalov, Grishan, the present church and the co-ordinator. The scene of Avdii's execution on a tree instead of on a cross at the hands of Ober Kondalov is a repetition of the whole drama, which was enacted about 2000 years ago in Jerusalem. It also implies that in a span of 2000 years; the evil has got quadrupled, while the one on the side of Truth and Justice stands all alone even today and he meets his end only at Golgotha.

Through Yeshua-Ha-Notsri M. Bulgakov tries to convey that "Cowardice is one of the most terrible vices". Yes, cowardice is Pontius Pilate's major curse. He, who was so brave and fearless on the battlefield, finds himself completely helpless in saving Yeshua from the gallows. He is pitiful and weak, he is scared of the informers, that is why in spite of his wish to cause no harm to Yeshua, he had to resort to cruelty and treachery. This cowardice "easily subjugates a man to evil, which makes him a spineless tool in the hands of others .... It can turn a clever, brave, well-intentioned man into a pitiful wretch, it can weaken and debase him". Doesn't this one statement of Yeshua-Ha-Notsri before death speak volumes about the Moscow of 1930's?

M. Bulgakov distributes the story about Pontius Pilate and Ha-Notsri in four chapters -- 2nd, 16th, 25th and 26th – in "*The Master and Margarita*". The second chapter describes the interrogation of Yeshua by Pilate, the sixteenth – execution of Yeshua, twentyfifth -- how Pilate kills judas and the twentysixth chapter describes the burial of Yeshua and confession of Pilate to Mathew the Levite that he too is a disciple of Yeshua.

The questions posed by Pontius Pilate to Yeshua are of the following type : What is truth? Is everyone basically good? Does Yeshuas reject the rule of the Caesar and believe that there will be a time when Caesars will no longer rule over man, but the mankind will be ruled by truth?

The description of the large terrace of the Herod's palace, the spacious colonnade, the singing of water in the fountain, the heavy oppressive odour of roses, the Procurator in an armchair on the mosaic floor toured by hemicranie, the secretary taking down the interrogation on the parchment .... everything is so real, it is as if the reader is not reading but witnessing the whole scene. The Procurator's internal desire to save Yeshua, his fear of the Caesar and also that of informers, the feeling of guilt in his heart after having sentenced Yeshua to death, his hemicrania, his killing of judas, offering a post to Mathew the Levite in Caesaria .... all this looks so vivid and life-like. The reader feels that he is present in the Jerusalem on the 14th day of Nissan. The language used in these chapters is so lofty and so majestic and the author so beautifully links the ancient with the modern that the swing is not at all felt, and so easily he switches over from Jerusalem to Moscow. Pontius Pilate with his white-red-lined cloak in the armchair, with his hemicrania, with his tone like posture, with his measured, strict speech, sometimes hinting, winking, prompting Yeshua to get answers to his questions which could have saved Ha-Notsri, seems quite different from the procurator in Ch. Aitmatov's "*Plakha*". Here the procurator is more like a modern bureaucrat.

"*Plakha*" has the Jerusalem episode in its second part – which described Avdii's mission of collecting opium seeds in order to reform Grishan and his friends through his preachings about the New God, about the God of Tomorrow. Irritated by Avdii's preachings, Grishan and his boys hurl Avdii Kallistratov out of a running train and there he – Avdii – the New Christ, as the author calls him – recollects that hot Friday in Jerusalem. Expanded into two parts, the chapter number 2 of the second part of "*Plakha*" describes how the Jesus of Nazareth is interrogated and sentenced to death by Pontius Pilate and in the third chapter Avdii Kallistratov, all the while unconscious but finding himself separated from his teacher through a span of 2000 years, struggles hard to save Jesus from the gallows. He – being in a distant future for the inhabitants of Jerusalem – sees the past so vividly that he knows in advance what is going to happen and thinks of taking Jesus away from Jerusalem. His agony knows no limits, when he finds that in spite of being fully aware of the future course of events, he could not stop the inevitable, since no one in Jerusalem noticed him or heard his words as he was destined to be born almost at the end of twentieth century – he simply did not exist for Jerusalem at the beginning of the Christian era.

Pontius Pilate, since the beginning of the interrogation, addresses the prisoner in a language which is so familiar to us but so unlike that of the Roman era. The moment Jesus looks at the bird flying over the terrace, Pilate exclaims : "Where are you turning your eyes, the King of Jews? It's your death circling over head". As if Pilate is teasing Jesus. The dialogue between the two is stretched for a significantly long time. It loses its grip over the readers due to long, complex, unwieldy sentences, and the falling of both Pilate and Jesus into their own thoughts. Pilate, while addressing Jesus, uses many such terms as "you unfortunate", "you, tramp", etc.

Jesus, in "*Plakha*", from the very beginning of the interrogation, tells Pilate that he knows that there is only death in store for him in the court of the Roman Procurator. He refuses to denounce the message, which he was trying to spread among the masses. His father, he says, had entrusted this task to him. Pilate then asks Jesus whether Jesus considers Caesar to be superior to God, to which Jesus answers that the Caesar is mortal and that there will come a day when the Truth will triumph over mankind. Jesus then tells Pilate about the essence of life – an aspiration towards self-perfection. He stresses the need for a human being to be a Man.

Aitmatov's Jesus tells Pilate that it is not He who will resurrect on the third day of his execution, but people of different, unknown future generations, will come to live in Him. He will return to people in the form of people through his sufferings – He will be one of them. Jesus equals Man with God. Man for him is Future God. He wants people to bother about future, as each one of them is a particle of the Future God. He propagates the Rule of Justice, the Rule of Truth. He predicts that in future people will die due to their lust for power, money and land. Thus, through the dialogue between Christ and Pontius Pilate, both the authors have tried to project the problems which were so peculiar to their own (the author's) times. M. Bulgakov stresses the need to be brave, emphasises personal freedom, while Ch. Aitmatov gives the message of truth, justice and humanity. Both these episodes provide enough material for stylistic analysis, reflect the contemporaneity and hence can be used in the teaching of Culture and Civilisation and Stylistics as well, besides literature.

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ANECDOTES, PROFILES AND IMPRESSIONS

J.S. Rajput*

In the context of societal development and growth, it is considered crucial to understand the kind of science and technology that would be responsible for shaping the future of living beings as members of the global village. Towards this end, there is a need to prepare each individual for developing capacities to understand and appreciate the future changes. Initiatives to universalise elementary education have been undertaken in countries and areas which have not yet achieved basic education for all, particularly the children in the age-group of 6-14 years. This alone would not suffice. It has to be the universalisation of science education, as every citizen would be required not only to acquire basic education but also the basics of science. It is an encouraging trend that science education in one form or the other has a recognised place in school education, even in developing countries. The emphasis would definitely grow in future.

The perceptions of the common man are, expectedly, often very near to reality as his vision is not tainted by much of complex thought processes and ideologies. To him science and scientists are familiar words, though both are alien and distant to him. Scientists are supposed to be persons of a different type. However, people in general have respect for science and scientists. They know that scientists perform difficult tasks and, therefore, they must be persons having distinct qualities, particularly in terms of commitment and devotion which must be given its due. There is always a keenness in the society to understand what makes people opt for science and what sustains them in their life-long mission to explore, understand and reveal the nature and the secrets of nature. Do they still retain qualities of emotional bonds and caring for others in spite of their being over busy with their single minded pursuits? How much do they have in common with the common man?

S. Chandrasekhar, our own Nobel laureate, refuses to accept the view that scientists are urged on in their work by a "holy passion" for truth or a "burning curiosity" to unravel the "secrets" of nature. He also does not believe that in their daily practice of profession scientists are like Buddha who renounced his princely life to contemplate about the ethical and moral values which give a higher and sublime meaning and significance to life. He also finds that scientists have equally little in common with Marco Polo. Dr. Chandrasekhar helps us to think about the scientists and the scientific processes, particularly to understand as to what gives them substance and reality in their work, in their desire to participate effectively and actively in the progress of chosen area of scientific activity to the best of their ability and devotion. He considers that the prime motive which underlines the work of a scientist is systematisation. Eventually he relates this systematisation to "Truth and Beauty". While going through this title (S. Chandrasekhar, *Truth and Beauty, Aesthetics and Motivations in Science*, Penguin India, 1991) one notices the sub-title "Aesthetics and Motivations in Science". In simple terms, it is systematisation in the approach of the scientist which motivates him to develop and replenish his aesthetic sensibilities, to the level of truth and beauty.

It was a few months ago when I had gone through the above-mentioned volume of S. Chandrasekhar. In view of my professional interest in teaching and learning of science at primary and upper primary stage, I have often been concerned with the quality of communication of science to the young learners. I was as such enchanted by another volume, sub-titled *"Anecdotes and Profiles"* which I came across at the same time as the "Truth and Beauty". It was only later that I noted that this volume had the title *"Silhouettes"* (Allied Publishers) and *"Anecdotes and Profiles"* was only the sub-title. It fascinated me. On turning the pages, I was more than thrilled particularly when I noted that it is based upon more than 60 years experience of one of the authors whose name appears on top cover — Prof. A.N. Kothare. Subsequently, it was found that there are three authors and not one. As a teacher it has been my experience that whenever an anecdote, a personal reference on an incident pertaining to the way the scientists work, is interspersed in a lecture, it attracts enhanced attention and enlivens the total climate of the classroom. It is in these moments when the aesthetic and value components of science learning come to the fore and leave permanent impressions on the minds of the learners. Can one talk of Bohr's theory and Bohr-Einstein statistics without generating a sense of pride amongst the learners? What better way could be thought of than to refer to the following anecdote:

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> "Niels Bohr was delivering a lecture, S.N. Bose was in the chair. The lecturer was writing on the blackboard trying to explain a point, but finding it a difficult task, turned to Bose and asked, "can Professor Bose help me?" Bose had been sitting with his eyes closed throughout the discourse. A titter ran through the audience to everyone's astonishment, Bose opened his eyes, got up, solved the problem, sat down and closed his eyes again?
> Students and Fellows were listening intently to Niels Bohr as he lectured. There was a sudden interruption and a question about the direction physics would take. Bohr was unperturbed and answered from Goethe's Faust, "What is the path? There is no path. On into the unknown." Bohr was to use these words frequently in the next decades."

Coming to the value component in the working and functioning of scientists there are beautiful anecdotes quoted in the book. Scientists solve problems and in doing so, often find themselves in problematic situations. This is so well illustrated by the following anecdote :

> "All the great scientists of London had assembled to witness Dr. Jagdish Chandra Bose's experiment to prove that plants also have life. When the plant did not die as expected after he injected poison into it, Bose was unperturbed. He probably reasoned to himself, 'The poison did not kill the plant, so it should not kill me, another living being.' To make sure, he took the injection syringe close to his left arm to inject its contents into his body. At that moment a man got up and said, 'I accept my defeat, Mr. Bose. It was I who replaced the vial of poison with coloured water which would not kill the plant."

Bose had learnt to solve his problems much earlier as well, devising his own innovative strategy:

> "When Bose joined a missionary school in Calcutta as a young boy, he found himself taunted and ridiculed by the European and Anglo-Indian boys, who were amused by his village background. One of the boys was a boxer, who tried to bully young Jagdish. One day, unable to tolerate the ridicule and the bullying, Jagdish challenged the other student to a fight and beat him squarely. No one dared tease him after that."

A case of self-assurance at a time when the position of women was no where near that of men becomes evident when one learns about the resolutions and resolves of Marja, who was to become Madam Curie. Her self-confidence, her determination not to despair and find a workable solution in problematic situation which could have just not allowed her career in science to take off, are all evident in the following :

> "Marja's father asked her what she would like to do with her life. Her response was immediate. 'I would like to go to Paris to study medicine. Women are admitted to the University there.' M. Sklodowska shook his head sadly and said, 'There is nothing I would like better for you, but your older sister has expressed the same wish. We cannot afford to send even one of you. What can we do?' Marja's pretty face grew firm and her pale eyes looked determined, 'Very well, Pronya shall go. I shall stay here and work to support her. When she is a doctor, she will help me to follow.' More than five long years were to pass and meanwhile, Marja worked as governess for a pittance."

This Marja who distinguished herself as Madam Curie to the entire world of science summarised her life story in these words "I was born in Warsaw of a family of teachers. I married Pierre Curie and had two children. I have done my work in France." Here one finds the purese example of humility in achievements, so rare to the young persons these days in what they see around themselves and experience in real life situation. Even if such a brilliant example could provide learning experience to a mere few *Silhouettes* serves a purpose. Talking of the present day context, one finds another fascinating account of a meeting between a politician and a scientist. When Prime Minister Gladstone left after visiting Darwin, the scientist remarked, "Mr. Gladstone seemed to be quite unaware that he was a great man, and talked to me as if he were an ordinary person like myself." When this statement of Darwin's was reported to Gladstone, he replied, "My feeling toward Mr. Darwin was exactly the same as Mr. Darwin's feeling toward me." Many of the scientists may have several additional anecdotes in this area!

One finds ample examples of humility interspersed throughout the volume, particularly touching are those which pertain to Darwin, Einstein and Newton. There is one anecdote which refers to Darwin at the age of 73. When Darwin almost fainted at the entrance of his friend's house, who was not present, his servant tried to assist him and urged him to relax inside the house. "Please don't trouble yourself. I shall find a cab to take me home." Einstein had written several letters to numerous children who used to write to him. He loved them. Once a girl from the neighbourhood approached him to assist her in her home work in mathematics. Einstein assisted her with all the time in the world at his disposal. The child's mother thanked him. His response was, "You don't have to apologise. I have certainly learned more from the conversation with the child than she did from me." While Einstein also learns from a small sentence from his famous letter to Robert Hooke, "If I have seen a little further, it is by standing on the shoulders of Giants." Achievements and ego are inversely related. Though not in all cases!

Identification of the talent and nurturing the same has been one of the accepted responsibility of scientists. It is in this context that I had learnt about the relationship between Sir Humphry Davy and Michael Faraday. I have read elsewhere that Faraday, who was Davy's Laboratory Assistant, was instructed in the evening to continue the experiment till the return of Sir Davy. Davy of course was an eminent scientist and had many engagements. He forgot and returned only the next day. Faraday was found continuing with the experiment without a break or a blink of sleep. Once it is said Sir Davy was asked as to which was his greatest discovery. The reply was — Michael Fraday. And, this Michael Faraday, always wanted to remain "Plain Michael Faraday." One is tempted to quote the following anecdote :

> "A few years before his death, a young man was sent down by the Royal Mint to perform an experiment at the laboratory of the Royal Institution. He looked up from his work to observe an old white-haired man, shabbily dressed, watching him whimsically.
> "I suppose", said the young man, "you've been here for a number of years?
> "Yes, a good many years."
> "Sort of a janitor here?"
> "Yes, sort of !
> "I hope they pay you well?
> "I could stand a little better pay."
> "And what, my man, is your name?"
> "Michael Faraday."

There are several other instances which reinforce one of the finest quality of scientists—their firm faith in their work. What more appropriate example could be than that of Galileo. He was compelled to retract his belief in the movement of the earth. However, as he was led away from the tribunal, trembling and exhausted, he remarked *"Eppur si muove"* --- "But the earth does move."

Coupled with this serious side of scientists, there are many anecdotes which refer to the lighter side. One of the finest is that of Louis Pasteur. It was Pasteur's wedding day. He did not show up. The pastor shouted, "Where on earth is that young chemist?" Where could he be except in his laboratory?" thought a friend of Pasteur's and he hurried to the lab to fetch Pasteur.

> The unruffled groom was plunged deep in this experiments.
> "Did you forget your wedding?"
> "No."
> "Then what are you doing here?"
> "You idiot, I am finishing my work. How dare you expect me to quit in the middle of experiment?"

It is more often than not that one talks in terms of data, figures and numbers when referring to achievements. My present assignment also requires me to do so. I often fail miserably in the same. While going through the book the following sentences give me more than sufficient solace and satisfaction. Some one asked Einstein —

> "Do you think a college education is really necessary?
> Cannot all useful information be found in books?"
> "I myself do not burden my memory with simple facts that can be looked up in textbooks. But the true purpose of college education is to train the mind to think. For that reason it is priceless."

Practically every anecdote I have gone through in this book has given me something on values, on individuals and personal qualities of individuals which needs to be communicated to all, particularly to the learners in our colleges and universities and in scientific laboratories. These to me are much more utilitarian than development of a certain chapter, topic or theory. The structure of the book probably proceeds on similar lines as after the anecdotes the first Essay is on "Humour, Humility and Humanism in Science." This appears to be very relevant and appropriate to the entire effort. While I find all articles are equally relevant; the two on Values in Science and Scientific Literacy are extremely well written. My understanding and appreciation of this book find magnificent endorsement when Dr. Madhuri Shah remarks in "An Envoi": "It may, therefore, be recognised that in the disciplining of the mind the teacher plays a crucial role." So does a single book.

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Book Writing and Some Indian Physicists

Balakrishna K. Nayar*

I

"It was my second visit to India after going to Chicago in 1937" said Professor S. Chandrasekhar to his biographer Dr. Kameshwar C. Wali, recalling a conversation he had with his uncle Sir C.V. Raman in 1961, "While visiting my sister in Bangalore, I went to call on Raman. When I arrived at his office, he was unwrapping my *Hydrodynamic and Hydromagnetic Stability*, which had coincidentally arrived by mail just then. He took the book in his hand and turned to me, and said, 'The only book of this size I have seen before is a novel by Anthony Trollope – absolute trash!' And he went on, 'How do you manage to write a book? I always found research far more interesting. In 1926, I wanted to write a book on the scattering of light. I heard that Henry Cabbannes was writing one; so I did not. And the result of it was that I discovered the Raman Effect and got the Nobel Prize, while Cabbannes wrote the book!' I could not help responding 'My God! I have lost four Nobel Prizes!' But he had the last word: he said, 'Getting a Nobel Prize isn't that easy'.

In the autobiographical account published with the Nobel Lecture, Prof. Chandrasekhar wrote "After the early preparatory years, my scientific work has followed a certain pattern, motivated principally by a quest after perspectives. In practice, this quest has consisted in my choosing (after some trials and tribulations) a certain area which appears amenable to cultivation and compatible with my taste, abilities and temperament. And when after some years of study, I feel I have accumulated a sufficient body of knowledge and achieved a view of my own, I have the urge to present my point of view *ab initio*, in a coherent account with order, form, and structure".

There have been seven periods in his life according to Prof. Chandrasekhar. They were briefly (1) Stellar Structure, including the Theory of White Dwarfs (1929-39); (2) Stellar Dynamics including the Theory of Brownian Motion (1930-43); (3) the Theory of Radiative Transfer, the Theory of the Illumination and the Polarisation of Sunlit Sky; the Theories of Planetary and Stellar Atmosphere, and the Quantum Theory of the negative ion of Hydrogen (1943-50); (4) Hydrodynamic and Hydro magnetic Stability (1952-61); (5) the Equilibrium and the Stability of Ellipsoidal Figures of Equilibrium (1951-68); (6) the General Theory of Relativity and Relativistic Astro-physics (1962-71); and (7) the Mathematical Theory of Black Holes (1974-83).

In each of these periods, as Marvin Goldberger says, Chandrasekhar has produced an infinite series of papers, followed by an infinitely thick book on the subject. These monographs and thick-books have become classics, which no serious student entering into research in astrophysics and some areas of Physics can pass by.

One of these volumes was instrumental in Prof. Chandrasekhar getting the Nobel Prize. Three of his volumes were reprinted in the Dover Classics. And it was a companion volume which Prof. C.V. Raman refers to as 'absolute trash' without so much as a careful look.

In a stimulating volume *Chandra - a Biography of S. Chandrasekhar*, Dr. Kameshwar C. Wali, himself a Professor of Physics, has made an attempt to delineate the influences, both personal and historical, which affected the life of Chandrasekhar to trace the development of his working style, and to explore that interestitial realm where scientific endeavour meets human subjectivity. The delightful book, based on extensive records, personal discussions, and private interviews with connected persons, provides considerable insight into the macrocosm of science and scientists he was associated with, and the microcosm of science in India he had interacted with during the last seven decades.

II

Professor C.V. Raman and Prof. M.N. Saha were two poles apart, both positive in their own way. In the matter of writing books, Saha took a much more positive attitude. His *Treatise on Heat* became a classic, which was translated into German and Russian. His *Textbook of Modern Physics* was another noteworthy contribution. Under his inspiration, a number of academicians at the Allahabad University wrote textbooks which remained popular for decades.

**Vice President, Indian Association for the Advancement of Science, B-1 Elankam Gardens, Thiruvananthapuram - 695 010.*

Professor Chandrasekhar was more influenced by Prof. Saha than his own uncle who had achieved pre-eminence in the country. Indian Physicists in general have apparently chosen to follow the Ramanesque line than the Sahaist model.

Out of 250 scientists of the rank of Assistant Director and above in the five Physical and Earth Science Laboratories of the CSIR, the number of persons who had written books was only 23. Hardly one in ten of the senior Physical Scientists of the CSIR had authored books. The total number of books written by these 23 scientists was 60. Of these, 26 were popular science books written by Dr. M.N.M. Rao, Scientist F at the National Physical Laboratory. Thus the number of scientific books written by 22 of the 250 senior scientists in the Physical and Geological Laboratories of the CSIR was only 34, giving an average of one to two books per author.

A Directory of Non Resident Indian Scientists and Technologists published by the CSIR in 1990 contains the names of 203 Physical scientists. Of them, 47 had written books, totalling 143. Nearly a quarter of the Physical Scientists in the NRI Directory had thus authored books, and the average number of books per author was three.

Thus we find that the percentage of senior Physical Scientists of the CSIR who are reported to have written scientific books was much less than half the proportion among NRI Physical Scientists and that the average number of books per author of the CSIR senior Physical Scientists was half the number per author in the case of NRI registrants. In short 250 senior scientists in the Physical and Earth Science Laboratories of the CSIR had authored a total of 34 scientific and technical books compared to 143 by 203 NRI Physical Scientists.

How far the senior Physical Scientists of the CSIR are representative of the community in the country is a moot point. The same may be said about the Physical Scientists in the NRI directory. In both cases, the sample size exceeded 200 and no selection process had been involved, except the natural one of having attained eminence.

The relentless pursuit for inflating the number of published papers, and the scant regard for contributions to the writing of good books, have led to the continuing hegemony of foreign books in our academic milieu. Whether this situation needs to be corrected expeditiously, and if so how are matters which the academic community, and those in charge of Human Resources Development, have to consider seriously.

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THE WORK IS THE MAN

The Saga of Michael Faraday

C.S. Sunandana *

On 22 September 1991 at 12 Noon at the Bhaskara Auditorium of the Birla Science Museum in Hyderabad I was amongst the audience witnessing a participative demonstration of electrical and electronic models.[1] The concluding item of that colourful show was traditional Indian 'lamplighting' performed by schoolgirls in folk dancer's costumes. But this was no ordinary oil or even the common electrical lamp; on the other hand this was a unique one based on the electromagnetic induction. Light-emitting diodes glowed the moment the girls placed the top portion of the lamp concealing a magnet on the bottom part containing the coil of wire inside! A fitting tribute to the genius of Michael Faraday whose portrait was illuminated at that instant by the light of his own discovery!! The birth bicentenary of Faraday couldn't possibly be celebrated in a more apt manner!!!

Every age throws up its own men and women as if in response to some unsaid prayers of humanity but only a few manage to qualitatively change our way of life, live beyond their 'physical existence' and leave to the posterity the bottomless treasure of their thoughts and labour. These people don't just belong to any geographical territory but are universal. Thus we have had Christ and Buddha, Shakespeare and Kalidasa, and in the more recent past, Faraday and Einstein, influencing our lives morally, culturally, physically and intellectually. If one person is to be singled out who profoundly altered our day-today civilized lives, then that person is, unquestionably, Michael Faraday.

Born to a blacksmith James Faraday and Margaret as their third child, at Newington Butts, London, on 22 September 1791, Faraday left school and started his life at 14 as a bookbinder apprenticed to one George Riebau, a French painter and bookbinder in London. Two of the books he rebound were "The Improvement of the Mind' by Isaac Watts and the third edition (1797) of 'Encyclopaedia Britannica'. While the first book later made him keep the now famous Laboratory notebook and Diary, the latter gave him an opportunity to read the 127 double column pages article on Electricity by 'Mr. James Tytler, Chemist'[2]. He was also influenced by Joseph Priestley's (again a chemist) work on electricity. Losing his father at 19, how did he land up at the prestigious Royal Institution — the Mecca of British science to this day? Well, he attended lectures at that place, delivered among others, by Sir Humphrey Davy of the safety lamp fame, made elaborate notes, neatly bound them and presented to Davy who was impressed and duly appointed him a laboratory assistant, at 22. Who would predict that the laboratory assistant of Davy's laboratory would head the same laboratory just twelve years later? It was a rise that would put the meteor to shame! In the intervening period Faraday had toured the continent with the Davys, lectured at the City Philosophical Society, became House Superintendent, married Sarah Barnard (daughter of a silversmith, and 'pillow of his mind'), discovered electromagnetic rotation, liquefied chlorine, and, elected Fellow of the Royal Society, London![3] He had also made the confession of faith in Sandemanian Church—an institution that opposed accumulation of wealth. Thus, at the young age of 34, in 1824, Davy's protege had come of age! One can't but recall Professor G.H. Hardy, the mathematician who played Davy to our mathematical genius, Srinivasa Ramanujan here.

Thus began an illustrious career of an unmathematical mind, a generalist and an experimental philosopher, and, a torrent of original discoveries followed, interspersed with Friday evening lectures and Christmas lectures for children, quite apart from administrative and consultancy work. He discovered benzene (which he called bicarburet of hydrogen) and started the field of organic chemistry, in May 1825. At the age of forty, on 29 August 1931, he discovered and demonstrated the phenomenon of electromagnetic induction — one of the few greatest experiments in the history of science, and, the electrical industry was born!

How did Faraday plan and carry out this epoch-making experiment? According to Williams[4] the ideas leading to the 'induction ring' experiment were developed in three stages or phases :

1. Wrestling with the basic concepts of the nature of electricity and magnetism. Faraday discussed and argued with the French physicist Ampere on these issues;

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2. Search for a solution to a problem raised by his own concepts: how could force be transmitted *Without* the transmission of matter in which the force inhered?
3. Stimulus for setting up the experiment. This was provided by American scientist Joseph Henry's announcement of a powerful electromagnet—in 1831—that could easily lift a weight of 700 pounds.

Let Faraday himself describe the experiment. 'Have had an iron ring (soft iron) made, iron round and 7/8 inches thick and ring 6 inches in external diameter. Wound many coils of copper wire round one half, the coils being separated by twine and calico-there were three lengths of wire each about 24 feet long and they could be connected as one length or used as separate lengths. By trial with a trough each was insulated from the other. Will call this side of the ring A. On the other side but separated by an interval was wound wire in two pieces together amounting to about 60 feet in length, the direction being as with the former coils; this side call B,' wrote he as the entry 367 of his diary. The ring assured maximum magnetic power at the secondary coil winding. But what should happen in this experimental setup? Magnetism being progressive, and like waves, developed in a medium—iron ring in this case. Just as a bowing plate, produces a vibrational pattern on another, the development of waves by a current in the primary (A) should likewise lead to a pattern or 'state' in the secondary through the medium of iron ring. The secondary (B) is therefore a detector of the wave produced by the primary (A). The wave did pass and was detected. 'Wave apparently very short and sudden' he wrote, concluding the success story.

To underestimate the importance of this apparently simple experiment would be to deny ourselves Maxwell's and Einstein's theories of the electromagnetic field and the unified field respectively, and, the electric generator and the transformer that we see everyday—keeping us on the move and lighting our homes, offices and factories, and watering our ploughed fields.

Amazingly, Faraday — the human dynamo he was — worked *Simultaneously* in analytical chemistry (like Berzelius), physical chemistry (a'la Gay Lussac and Dalton), Electromagnetism (like Oersted and Ampere), Theory of Light (like Fresnel and Young) and Electrochemistry (of which he was co-founder with Davy). This eightfold genius performed, soon after the induction experiment, another crucial experiment on migration of ions through an electrolytic cells in order to verify the 'action at a distance' hypothesis propounded by the Newtonian school. Not only did Faraday categorically negate the orthodox view, but revealed the basic unity of electrolytic conduction (action of a transistor battery), electrostatic induction and ordinary electrical conduction. He constructed an electrolytic cell based on sodium sulphate jelly and found that the migration of sodium ions was detected only on the outer set of litmus/turmeric papers closest to the electrodes but not during their passage through the inner set immediately surrounding the jelly. He concluded, 'No signs of free acid or alkali in its transit appeared', in this attempt to convert a chemical force into electrical force. When he discovered the high (metal-like) conducting power of silver ions in silver sulphide, in 1833, he was actually reporting on the first superionic conductor, a flourishing field of research today, with vital applications in batteries and sensors[5].

Faraday's work—his four hundred and forty research papers, journal (diary), books and letters — has given us the rare and unique opportunity of studying the man and of finding out how he could achieve what he eventually did. In short, the work is the man. The philosopher emerges from the scientist. It is perhaps a truism to say that in the case of Faraday experiment came first followed by theory — that is, the experimental results provided theoretical insight and not vice versa. Indeed, Gooding[6] shows how scientists like Faraday obtain access to the empirical world through experiment.

In Faraday we find an ideal lecturer whose charming style combined with power and simplicity of argument won hearts of laymen and children alike, and, a masterly writer with a magical pen, whose paragraphs tell us vividly of his failures and successes, agonies and ecstasies — for which there is lamentably no place in modern scientific journals. According to Thomas[7] his writing is 'a unique amalgam of compelling immediacy and Chekovian timelessness, mingled with an abundance of optimism (even elation), self control and self criticism.' We feel a sense of childlike wonder when Faraday contemplates the universe and the fields that keep it unified. Faraday's *Diary* is an invaluable resource for the study of creative thinking in science, whose study, among other writings, enabled Maxwell to translate his ideas into rigorous mathematical language.

In his most famous book, *'The Chemical History of a Candle'*[8,9] based on his last lectures to young people, almost all aspects of the common source of light are discussed: its making, the physical properties of the flame, the mechanism of burning, the chemical reactions thereof, and, even things such as the relation between respiration/combustion and carbon dioxide uptake in the atmospheric carbon balance! 'If I shut the air off, look how it smokes, and why?...' he goes on, '.... we have now the case of imperfect combustion, and this is so interesting that I want you to understand it as thoroughly as you do the case of a candle burning in the best possible manner.' He deals with several aspects of soot formation—a topic of great current interest—the so-called 'Buckeyball' or

C_{60} superconductor[9]. He had the recipe for making these carbon microparticles! 'Well, these particles.... are just the smoke of the candle, ... But what is that black substance? Why, it is the same carbon which exists in the candle... whenever a substance burns... without assuming the vaporous state... it becomes exceedingly luminous... all substances whether they burn or whether they do not burn... are exceedingly bright if they retain their solid state... and it is to this presence of solid particles in the candle-flame that it owes its brilliancy'.

Faraday's work stresses the timeless relevance and value of fundamental science. Devoted as he was to the ceaseless pursuit of knowledge for its own sake he was also aware of the specific uses of his research—which modern day funding agencies want the fund-seeking researchers to predict. When asked by Gladstone (the British Chancellor of Exchequer) about the practical worth of electricity, Faraday replied 'One day, Sir, you may tax it.'

Faraday was no mathematician but thought in a very concrete manner. He was a dreamer, a poet with a rare vision and a definite mission. 'You can hardly imagine', he wrote in 1845, 'how I am struggling to exert my poetical ideas just now for the discoveries of analogies and remote figures respecting the earth, sun and all sorts of things for I think that is true way to work out a discovery'[10]. The power of analogy—emphasised and exploited to the hilt by his worthy successor Maxwell - brought glory to Faraday. He claimed that 'the various forms under which the forces of matter are made to manifest have one common origin... or,... are so directly related and mutually dependent, that they are convertible, as it were, one into another, and possess equivalents of power in their action.' Viewed in this perspective, his self-imposed task 'Convert magnetism into electricity' assumes a significance unrivalled in the annals of science. In this context one could suggest that Einstein, according to whom Faraday brought about the greatest change in our conception of physical reality since Newton, found inspiration from the latter in enunciating his mass-energy equivalence. The portrait of 'Field Marshall Michael Faraday' in his office must have been much more than a mere sentimental memorabilia !

A unique aspect of Faraday's writings is that he fantasised his work i.e., his observations so that it often appeared like fiction. In fact, much stranger! Thus it is no wonder that writers like Edward Bulwer-Lytton and Charles Dickens drew from his work and skillfully adapted his discoveries into their works of fiction.[10] Bulwer-Lytton's *The Coming Race*, a Swiftian satire and Dickens' *The Bleak House* are cases in point. In the former, a whole paragraph of Faraday's '*Experimental Researches in Electricity*' (No. 2146) has been quoted verbatim. 'Since every aspect of the apparently Utopian existence of the underground dwellers depends upon the latent powers stored in the all-permeating fluids which they call Vril. Vril is an unknown country discovered by an American in the depths of the earth. A character in the story tells the wonder-struck American

> 'I should call it electricity... These subterranean philosophers assert that by one operation of Vril, which Faraday would perhaps call 'atmospheric magnetism', they can influence the variations of temperature—in plain words, the weather; ... by other operations... applied scientifically through Vril conductors, they can exercise influence over minds, and bodies, animal and vegetable, to an extent not surpassed in the romances of our mystics. To all such agencies they give the common name of Vril!

The concept of correlation or convertibility of natural forces— the central thesis of Faraday—has been successfully manipulated in this fascinating narrative full of fanciful details.

Dickens' long and complex novel on the theme 'physical laws are almost exact analogues of moral laws' contains one definite episode of a scientific nature: the death by 'spontaneous combustion' of Mr. Krook, the central character: 'And the burning smell is there—and the soot is there, and the oil is there—and he is not there!' The obvious reference is to the sudden burning of the candle. One might recall Shakespeare's famous lines in *Macbeth:* 'Out, out, brief candle' here. In another article 'The Laboratory in the Chest', Dickens' comes to a 'ridiculous conclusion'—'great drinkers may have a system that is too inflammable'. He has apparently drawn from Faraday's parallel between chemical combustion and human respiration: we take in oxygen, evolve heat and exhale carbonic acid.

Although it would be preposterous to even think of 'recognising' the contributions and consequences and impact thereof of this humble Sandemanian genius, by the award of a 'noble' prize, one could still appreciate the happy conjecture[7] that 'had there been Nobel prizes in Faraday's day, he would have won atleast six!'. The 'citations' include electromagnetic induction, laws of electrolysis, magnetic properties of matter and magnetochemistry, Faraday effect and magnetooptics, and, benzene and organic chemistry, and, of course, the notion of a field which led to the new era of Physics beyond the post-Newtonian mechanics. Among his discoveries the 'Faraday balance' and the 'Faraday isolator' are being used even today routinely in the measurement of magnetic susceptibility and in microwave circuits respectively.

This extraordinary creativity and the unprecedented output have been attributed to his ability to adapt and use new techniques, know-how, apparatus or images. Faraday thought like a poet but acted like a possessed scientist. Imagery and reality existed side by side and were indeed inseparable like the soul and the body. The science-poetry connection—a widely discussed topic in contemporary literature was almost a way of life with Faraday. The imagery of 'lines of force' is really the '*tour de force*' of his fertile imagination which later turned out to be a stunning reality. Faraday might not have written conventional poetry like Maxwell but his life and works by themselves constitute an epic poem. His discoveries answered the philosophical question 'What is matter?' through 'dematerilisation' experiments. Matter—it may be said—materialised to Faraday unlike it did to Newton. Though not given to write differential equations like the latter, mathematical precision in experimentation and poetic imagination more than made up for his 'isolation from post-Newtonian mathematising.[11] His image—moving magnetic lines setting up electrical strains showing up as an electromotive force in a circuit —has however remained a favorite even among unpoetic scientists. Advances in magneto-hydrodynamics and superconductivity have been possible only by conjuring up magnetic lines convected by a conducting fluid and magnetic flux being quantized in a superconductor ring.

It is but natural that many honours came Faraday's way but he accepted a few — Doctor of Civil Laws (DCL) from Oxford and Cambridge Universities in 1832 and 1862, and Deaconship (1832) and Eldership (1840 and 1860) of the Sandemanian Church and the first Fullerian Professorship of Chemistry at the Royal Institution. He declined the apparently more prestigious offers of Presidentship of the Royal Society (1858) and the Directorship of the Royal Institution (1864)! In the same year he resigned from the Sandemanian Church.

It is significant that ill-health could not stop his work completely. He only partially retired from lecturing and research during 1839-43 and completed and published his two volume work *'Experimental Researches in Electricity'*. His discoveries of the rotation polarized light rays by a strong magnetic field, and its direct consequence—the tendency of electrical charges partially to shield the interior of a body from an applied magnetic field were announced during this period.

The last nine years of his thoroughly fulfilled life were spent in the tranquillity of 'Grace and Favour House' at Hampton Court, granted by Queen Victoria in 1858. Of course he published *'Experimental Researches in Physics and Chemistry'* in the following year! The last lecture at the Royal Institution—a kind of swan song—was given by him on the 20th June 1862. The last five years must have been years of satisfaction — of a committed life lived justifiably to the second, spanning a gloriously creative career of five decades. The peaceful transition to the Kingdom of Heaven came on the 25th August 1867. He was laid to rest alongside his predeceased wife in Highgate Cemetery. Just a few hundred yards from his final abode lies Karl Marx's grave with this philosophical epitaph: 'Philosophers interpret the world. The task, however, is to change it'. Faraday not only interpreted the world but also changed it beyond recognition — a task possible only for chosen men.

We remember him through the units of measurement of chemical electricity and electrical capacity namely *Faraday* and *Farad*. But the best living (and loving) memorial to him is the Faraday Section of the Chemical Society of London which publishes two scientific journals of research in Physical Chemistry and Chemical Physics — Science at the interfaces of Physics and Chemistry — covering research interests close to his heart. And, of course, there is the Davy-Faraday Laboratory of the Royal Institution—the place where his electrical laboratory is preserved as a museum, at the famous basement.[7]

The Sandemanian Faraday comes very close to Lord Krishna's description of a *sthita pragnya* and a *karma-gyana yogi* in his (latter's) Gita. More significantly Faraday attained lasting peace by denying himself any of the fruits of his own labour. The importance of this timeless soul goes beyond the celebration of his birth bicentenary.

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My Favourite Author

The Exasperating Nirad Babu

Girja Kumar*

Of all the literary authors of contemporary India, Nirad C. Chaudhuri is the most outstanding. He came late on the scene when he published his extraordinary autobiography *The autobiography of an Unknown Indian* (Hereafter referred to as *An unknown Indian*) at late 54 in 1951 dealing with twenty four years of his early life in East Bengal and at Calcutta. His autobiography was followed in quick succession by a travelogue about his impressions of England (1959), a book on the peoples of India (The continent of Circe, 1965), his biographies of Max Muller (1974) and Clive (1975) and a book on Hinduism (1979). The books that followed his autobiography were only the fillers before the main course. The sequel to his biography *Thy hand, great anarch ! India: 1921-1952* (Hereafter referred to as *Thy hand*) was published when he was ripe ninety. The sequel brought his life history up-to-date to mere 1952. The remaining 28 years still remain the untold story of his life, most of which was spent by him in England away from his home.

Life Extraordinary

It is an extraordinary life of a person (the true renaissance man) who started his life as a clerk in the Military Accounts Department, failed to pass his M. A. Examination, did not belong to any literary establishment and tradition, and was not bestowed any national honours. He had an *obsession magnifique* with the European soul of India (now lost) and the benevolent role of the British Empire in India. Both these themes recur like the main theme in a musical piece in all his works. His intellectual output has a unity of sorts, as reflected in the dedication to *An unknown Indian*: "To the memory of the British Empire in India which conferred subjecthood on us but withheld citizenship; to which yet every one of us threw out the challenge: "Civis Britannicus Sum" because all that was good and living within us was made, shaped, and quickened by the same British rule".

All that peevishness worn prominently on his sleeves by Nirad Babu is only a facade. He is in the tradition of Indian (Hindu) scholarship at his best throughout historical times. He is in the Renaissance tradition, albeit there has been no Indian Renaissance in the truest sense of the term. Nirad Chaudhuri has usurped a title for himself in one of the chapters of *Thy hand*. He calls himself the scholar gypsy. He is indeed one. He moves from one literary occupation to another at the drop of the hat. There is, however, no doubt about his innate love for the land of his birth.

The distinguished personality born in 1897 – the year of the Diamond Jubilee of Queen Victoria – is in danger of being forgotten. In the introduction of the biography of Max Mueller, Nirad Babu reminds us that when Max Muellar died in 1900, he had been completely forgotten, but "for thirty years before that he was a world figure." Now that Nirad Chaudhuri is approaching his centenary, he needs to be remembered for qualities for his heart and mind and specially his literary integrity. For me he remains/my favourite Indian author for not merely his literary eminence, but also innate humanism and infinite capacity to absorb new ideas from whatever quarters. He can be irritable and insufferable at times, but he remains a foremost symbol of intellectual India with the best amalgam of past and present. He is an inspiration to all those who feel uncomfortable at the dividing line between the two cultures of science and humanities.

Knowledge Qua Knowledge

Another extraordinary thing to be noted about Nirad Babu is his proclivity to live his life through characters and historical events depicted in his books. Any number of instances can be given to substantiate the argument. In his biography of much-admired Clive, he has unmitigated admiration for "the strongest trait of his personality" in an irrepressible urge for self-assertion." It equally sums up the character of our literary hero, for whom Max Mueller is another character of heroic proportions. He has termed him as "scholar extraordinary." What was his most distinguishing characters ? The answer lies in his pursuit of "knowledge qua knowledge" and "ideas quo ideas", so as "to make an impact on the minds of men in general". Nirad Babu has seemingly placed himself in place of Max Muellar.

**Former Librarian, Jawaharlal Nehru University and President, Indian Library Association.*

It must have been a matter of great satisfaction to him that the boot fitted him perfectly. In spite of a life of penury throughout his professional career and now in England (if the word whispered by the little bird is to be believed), he had the audacity to pursue knowledge throughout his life.

No less striking is another discovery when Nirad Chaudhuri is placed very much aligned to characters and situations in his books. Scratch him and you will discover to your amazement another being under the surface. All his life he was an unrelenting critic of Hinduism. The reality is rather different. Admittedly he was very much influenced by the thought of Brahmoism (all good Bengalis are under its thraldom). What he admired the most in Brahmoism, as well as in new Hinduism, was its ascetical and puritanism in practice''. Nirad Babu was not anything but ascetic in his life and puritan to the boot. For he has the victorian coyness about describing matters about sex.

His books (the whole range of them) are a confessional about the men and the milieu in which he lived. No wonder, his two autobiographical works are not autobiographies in the ordinary sense of term. The individual is only a star in the stage of life crowded with actors, but, however, he stands out for his shining qualities in the firmament. By reading him, one gets access not only to the innermost thoughts of the individuals about himself, but much more about the milieu in which he lived.

Sociological Document

At heart Nirad Chaudhuri remains child. He has the same sense of curiosity bred in him. He has the sense of wonder in his eyes of the child in *Pathar Panchali* (incidentally the author of the same, Bibhuti Banerji was his great friend). The best parts of his biography *An unknown Indian* have to do with his early years in East Bengal. Those are the most evocative and a sociological document of our time. He talks of the essential training of every child in his ability to weave three kinds of flowers – ''the jasmine, the Night – blooming flower of Sadness, and the Bakul''. He talks nostalgically of this joint family in his native village and of blood relationships, with their ''immeasurable capacity to bring men together''. Blood must be thicker than water in those days, because he is able to recall with facility and as catchism the names of his ancestors to the fourteenth generation. He has a remarkable memory with his aptitude to recall vividly Kishorganj, the place of his birth, Bangram, his ancestral home, and Kalikutch, his mother's village to the last detail.

The East Bengal rural scene comes alive in its geography and sociology. The smells, noises, and colours are recapitulated vividly. The little details of social events and day-to-day existence are narrated with a remarkable degree of exactitude, with a touch of lyricism. Nirad Chaudhuri shows as much facility in portraying men and women, places and events in East Bengal, as Satyajit Ray had shown in his *Pathar Panchali* in depicting the Bengali rural scene, its stark poverty, social traditions and cultural values. A number of descriptions leave a lasting impression. Here is the recapitulation of Durga Puja ceremony involving the ritual of buffalo sacrifice. The ceremony ended with all those present smearing themselves with the blood of the sacrificial animal. The Bengali in Nirad Chaudhuri was struck too dumb to be critical.

'Pitri' Debt

His father was the greatest influence upon him in his nascent years. Nirad Babu devotes considerable space in his autobiography to this small-time lawyer from God-forgotten town of Kishorganj. At his best, he can be described as belonging to the *bhadralok* community, with a catholic mind unusual for a backwaters advocate. According to his precocius son, ''he seemed to possess an unerring sense of the future.'' He could sense the coming trends. He must have been a dreamer, a quality obviously imbibed by Nirad from his father. His father was seen to be reading *The Brothers Karamazov*. Of course, he had read Tolstoy's *War and Peace* several times.

His son had inherited his love of books. He encouraged Nirad Babu and his elder brother to buy books by providing lavish funds. His brother was known to subscribe to the *New Statesman and Athenaeum* and *Times Literary Supplement*. Nirad Chaudhuri was thus fortunate in his formative influences. His main hobby was bibiophily. It remained as a life long habit with him. His father also influenced him in many other ways. He was a role model for his son. He transmitted to Nirad Babu his ''complete regard of self ...... in the higher connotation of personal achievement and acquisition of personality''. Like father like son, he was completely ''indifferent to money, power, worldly position, fame and even in the form in which he could command''. Nirad Babu was thus genetically a copy to the last detail. His father had also the passion ''to rise above his environment''. Nirad Babu must have owed a *pitri* (paternal) debt in his earlier life. He must have been paying compound interest in his present life to his father.

Bengali Renaissance

There was no Bengali Renaissance in the right sense of the term, but there is no denying the cultural ferment that had overtaken the *bhadralok* of Bengal. Nirad Chaudhuri settled in Calcutta about the time the phenomenon was at its height. He was overwhelmed by the cultural and literary environment around him. Apart from the brief period of his service with the Military Accounts Department (in fact he was afterwards unemployed for two years and on the verge of starvation), all his time was taken by literary pursuits until his migration from Calcutta to Delhi. Intellect was his sole preoccupation. Bibhuti Banerji, the author of *Pathar Panchali* was his best friend. To him, "His poverty – stricken and drab life made romanticism a condition of mental survival for him". Since Nirad Babu was placed in the same predicament as Bibhuti Banerji, the situation described by him as well spoke for him. Mohitlal Majumdar, the leading young poet of Bengal, was, another close friend. Ramananda Chatterji was his mentor.

He emerged as a writer in Bengali in the field of literary criticism. He was appointed editor of a Bengali literary magazine in 1931. While he was extensively well read in English and French literature, his active literary world was limited to Bengali literature. What distinguished Calcutta of his time was the fact that there was difficult to draw a line where Bengali life began and Bengali literature ended. Life and literature had turned into a single entity. He was thus able to draw a great intellectual satisfaction from life in spite of his constant state of penury. In his ideal state of being, "both emotional capacity and idealism were sustained" by his literary enterprise. To him, "The actual business of bringing happiness into life was taken over by Bengali literature". To him Rabindranath Tagore was the most towering literary personality, whom he considered the greatest Bengali of our times. There was nothing but *joie de vivre* for him in his ceaseless literary pursuits. The physical condition and his state of discomfort mattered very little to him. No wonder, he confessed to his sister that "Bengali writers were a set of madmen". He was certainly one of them. It is a pity indeed that he eventually foresook writing in his native tongue in place of a foreign language.

His love of books outshone all other activities including his writing activity. If he were to mortgage his soul to the devil, he would not have done it for anything than a commission to read at least one book a day. One of the momentous events that took place in his life was when he crossed the age barrier for enrolment as a member of the then Imperial (now National) Library. He would be found there day after day after trudging the long distance from his house on foot. Come rain, come wind, he was to be unfailingly found there. It is to be noted that "In the three months of the summer vacation of 1917, I read every nineteenth century and early twentieth century classic of history".

In fact he was as much on home ground in historical and literary criticism. Indeed his literary criticism is derived from the principles of historical critique. His main motto was his infinite faith in the ideal of historical objectivity. His studies of Clive, Max Muellar as well as Hinduism and the Indian society are subjected to his historical exactitude. This attitude seemingly positivist (and old fashioned) does not however, detract from his objective outlook on life. It is no exaggeration to say that there is no strict line of demarcation to be drawn between life, history and literature in his writings.

Matters Sexual

While Nirad Babu was adventurous in matters of intellect, he was coy as a shy bride in sexual matters. He was a prude in this department. His training in Brahmoism must have acted as a damper for him. Sex indeed befuddled him. He avoided its mention as far as possible. He was indeed an ignoramus in such matters. He felt especially miserable because he had known instinctively about "the futility of trying to understand sexual matters with the help of the intellect". He takes to romantic flight in describing the first stirrings of sex in him. All his talk of the vibrancy of girl's "body and face" were no more than sweet nothings. How to handle the premarital urge. He takes cover under the love of Max Muellar for his future wife Georgina, who was a role model for him. He was a romantic who took cover under the romantic age in its ideal of "wife a greater ideal than the mistress".

However his was an arranged marriage and his bookish knowledge hardly worked on the wedding night. He felt so much awkward, much more than his coy bride. He was misery incarnate on the wedding night. Amusingly the first question (and foolish one) he asked her was about her acquaintance with western classical music. The complete stranger and traditional Indian bride was quizzed by him about her knowledge of Beethoven. It must however be said to the credit of Mr. Chaudhuri that she quickly learned to appreciate western classical music.

His married life was no bed of roses for him. He had been grounded at the very initial stages. He had to get his teeth fixed just before his marriage on credit.

It was alright for him to say that "blessed are the poor with the spirit", but the stark reality remained that for long he was without a job and without a penny in his pocket. In his own words, "Far from looking for a new job, I did not think of finding one". He had no money for medical expense. Mrs. Chaudhuri was about to deliver a child. Miracles do happen. A packet of money was in hands at the right time to take care of expenses. If there was no money for milk, his Bihari milkman was ever willing and very much solicitous to provide milk on credit. The Chaudhuris were able to balance the budget after the first decade and half of married life.

His stoicism is to be admired. While he has written two big tomes for denouncing Hinduism, it is the Hindu quality of denial that saved the day for him. In this instance Nirad Babu was in the good company of Moliere's famous character who took long to discover that what he was speaking was nothing but prose. Unlike the Moliere character, Nirad Babu is yet to discover the fountain of his spiritual strength. It is indeed remarkable that Nirad Babu never readily admitted to his state of penury. He was too proud to admit the state of his being. His *izzat* was more important to him than his straitened circumstances. It speaks highly of his intellectual integrity, again in the highest Indian traditions at their best. His creativity is indeed explained by his dialectical circumstances.

Political India

He functioned as Secretary to Sarat Chandra Bose, elder brother of Subhas Chandra Bose, from 1937 to 1947. His days of penury were at last over. Since Sarat Babu was a prominent leader of Bengal Congress and a generous host, Nirad Babu was privy to a great deal of political developments of the day. He had indeed a ringside view of Indian politics. Like many Bengali intellectuals, he had an intense dislike for political strategy and tactics of Gandhi. He, however, took instantaneous liking to Gandhiji as a person for the first time. When viewed from close quarters, Gandhiji impressed him on account of the expression on his face, and, indeed, "It was one extraordinary innocence and benignity – with two soft beams streaming out of his eyes".

Nirad Babu however, took intense disliking to Gandhiji's entourage. Their self-importance was too obvious and could not be hidden and naturally Nirad Babu "never saw them smile or even look relaxed". The female kind were even worse. He is usually all seriousness, but when it came to describing the female following of Gandhiji, he was at his best being mischievous and spiteful at the same time. To him, "they were.....all feline, although some were catty and other pussyish". He softened the criticism of all at least towards one of them who "corresponded to the type of female votaries of saints, being voluptuous and prudish at the same time". At least it must be said to her credit that she was able to release the dormant sexuality in Nirad Babu at subconscious level for a change.

The Congress leaders besides Gandhi and Nehru were at the receiving end without any remorse or pity for them. His assessment of Congress leaders in general was their being "always premptory" and "bursting with self-importance" What was their strong point? It was "their loquacity" In retrospect Nirad Babu has been completely perceptive about "the elders of the Congress". His sense of historical objectivity has stood him in good stead in this instance.

He is however, the severest with no holds barred when it came to political Gandhi. His politics was a complete anathema to Nirad Babu. There could be no more blimpish in this matter than him. What use was Gandhian ideology, because it was "driven by a resolve to abandon civilised life". He even accused Gandhiji of political illiteracy through his lack of knowledge of Indian history, culture and ethics. He goes full blast by pontificating about the total lack of coherent and intelligent ideas in the thought of Gandhiji. The Bengali in him must have stirred at the very thought of Gandhi – Bose controversy that came to pass precisely during the years Nirad Babu found himself under the Sarat Babu tutelage.

The contribution of Blimpish world view and Bengali sentimentality must have proved lethal in his case. The inevitable conclusion is logical in the situation. Nothing more remains than to pass a death sentence. Nirad Babu was ever ready to be a judge, prosecutor and executioner. The final judgement : It was "impossible to imagine a more complete, and tragic failure for any man". Gandhiji was a complex personality. The ideologue in him was much greater than the politician in him. Nirad Babu is too prejudiced and naive to identify the great man with universal appeal in Gandhiji.

Imperial Legacy

A rational human being and a votary of historical objectivity became a victim of his prejudices. He had been so maltreated by the Indian social system (his life had been a constant struggle) that he came to nurse a grudge against it. It was a one step further for him to juxtapose British imperial legacy of India against Indian nationalism. He took to pleading the cause of imperial legacy. It became an obsession with him. It was a one-man crusade against the social system that had constantly harassed him. The British Empire in India was an historical mission, thereby a sacred duty that was obligated to be performed by its legates. To him the empires were in line with the ethos and thus essential to the development of human race.

The counterpoise of the nationalist movement against imperial legacy was in his view a retrograde step in civilisational terms. Hence he developed the thesis that the decay of Indian Renaissance began between the years 1916 and 1918 in line with nationalist resurgence in India. What was the net result? "Then gradually and slowly I woke up to the fact that I was witnessing the decay of a social order". The symptoms indicated, "not simply the decay of the British Empire in India...., but of the civilization of modern India, that is to say, the civilization created by Indians in the nineteenth century under the impact of western influences". He felt sorry for the Hindus who in his perspective were "Europeans enslaved by a tropical country".

Nirad Babu had at least the personal satisfaction in rescuing his 'European soul' from Circe (The Greek goddess with flowing tresses weaving it fatal magic spell constantly) through his migration to England permanently. A great deal of what he writes is mumbo-jumbo with racial overtones. He must have also been influenced by climatic theories about civilization that were fashionable at one time. There is a point in all that he states. A considerable civilizational debt is owed by India to its British imperial legacy. A balance however needs to be struck between pros and cons.

Hindu Civilization

Hinduism was the real culprit in his perspective; it decayed after it moved away from its European moorings. He wrote a whole book *The continent of Circe* devoted to the theme. To him every Hindu was divided against himself. He attributed it to a streak of insanity in them throughout historical times. He saw "a large number of antithetical though connected trends" which were responsible for the distortion of Hindu personality. For him the Hindus were the victims of Circe. He considered himself as "the son of her ancient victims, and I have also had to be a victim myself". Thus there is no reprieve for anyone and much less for himself. The fate for him is historically ordained. No wonder, he ends his autobiography *An unknown Indian* on a pessimistic note: "Yet it was neither absinthe, nor lust, nor disease, nor remorse for some hideous suppressed crime, nor requitted love which had brought me to this pass. My low spirits were absolute. There seemed to be no cure for them". Not everything is lost. There is still some hope for reprieve for the Hindus. Nirad Babu turns back to the ancient Hindus who according to him never practised hypocrisy. He is also taken in by the qualities of asceticism and puritanism in them. The Vaishnav cult of *bhakti* also influenced him in his formative period. While singing hymns, the idea of God became a living reality with him. He had grown in an atmosphere of moral awareness in his early years. He was also greatly influenced by two epics of *Ramayana* and *Mahabharata*. He was made aware of constant conflict between good and evil, with the outcome obvious in the end. He also realised from their reading that "price of virtue is eternal vigilance and effort".

Nirad Babu is chary of recognising their influence in the formation of his character in subsequent writings, those indeed formed the substratum underlying his thought throughout his living years. If the child is said to be the father of the man, then his formative years are to be considered as most crucial for him. All the basic intellectual, religious and moral ideas acquired by him "to the age of twelve" stayed put with him throughout his life. To employ his favourite antithetical analogy upon him, Nirad Babu carried on a constant campaign against the Hindus as being one of them. He was being a true Hindu in their tradition of practising duality.

While his *An unknown Indian* ends with a pessimistic note, he retrieves the situation in the sequal to his autobiography *Thy hand* by striking an optimistic note: "But, even so, the human situation in its fundamental character is not worse than what it has always been; only the scale of conflict between progress and decadence is infinitely larger". He concludes upon an assuring note by asserting that the "Man of faith, believing in a higher dispensation in the universe than man's will, have always been bewildered by the duality in their existence". Nirad Chaudhuri is a living example of that dialectical dilemma. Amen !

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The last date for receipt of completed Application Form is **April 10, 1992**.

Krishnamurti : The Most Extraordinary Person

A.P. Sharma*

The Discovery

A person of extraordinary wisdom, a messiah of the 20th century, reckoned as the World Teacher, believed to be the Lord Maitreya's incarnation, Jiddu Krishnamurti, was born on May 11 in 1895 at Madanapalle, a small town in Andhra Pradesh to Telugu speaking middle class parents. The real discovery of this human being was made by a remarkable Theosophist, a former pupil of madame Blavatsky named Charles Leadbeater, who is reputedly known to have possessed psychic and clairvoyant powers. When Leadbeater saw a group of Indian children bathing on the beach at Adyar near Madras, where the International Headquarters of the Theosophical Society was situated, he observed that one of those children had quite a remarkable aura which indicated that the child would become a great spiritual teacher and a remarkable orator. The boy was one of the four sons of a poor brahman widower, named Narianiah, who had been working for the Theosophical Society. Narianiah readily signed the legal papers making Mrs. Annie Besant (the then President of the Theosophical Society in India) legal guardian of the boys Krishna & Nitya for the sake of their education. Krishnamurti was fourteen years old at that time.

Krishnamurti from his early childhood was always a sensitive and religiously disposed child. After his discovery by Leadbeater on 11 & 12 January, 1910 he had his 'First Initiation', a ceremony organised at apropitious time. In a written account Krishnamurti informed Mrs. Besant later on 'how he left his body and gone into the company of the Masters, among them the Lord Maitreya and the Master Jesus who had asked him a number of questions before solemnly admitting him to the Brotherhood of Eternal Life and giving him the Key of Knowledge.'[1] On the first anniversary of his initiation a prominent Theosophist formed an organisation called the Order of the Rising Sun.-Some months later the organization was renamed the Order of the Star in the East. Krishnamurti was nominated the Head of the Order. In 1911 Mrs. Besant took Krishna & Nitya to Europe and travelled around giving a number of public lectures on 'The coming of the World Teacher's ana introducing Krishnamurti to the prominent members of the Society.

After reaching England Mrs. Besant admitted both Krishna & Nitya, at Britain's most famous University of Oxford. But due to publicity given to Krishna that he was to become the 'World Teacher', neither Oxford nor the other universities were keen to keep them. As a result both the boys continued to receive most of their education from private tutors. The younger brother, Nitya, managed to pass his matriculation examination and later qualified as a barrister, but Krishna twice failed the examination, which he managed to pass later as an external student.

The Turning Point

After completing his matriculation the next seven years were the years which were full of miracles in which the Spirits of Lord Maitreya, Jesus and Master Kuthumi visited Krishnamurti many times. Sometimes he felt vibrations of Lord Buddha too. Once when Krishna & Nitya had been staying at Ojai which is about eight miles north of Los Angeles, Krishna had a strange experience. He sobbed aloud, would allow no one near him and complained that everything around him was dirty. Then, prompted by suggestion, he went to sit under a pepper tree which was just in front of his cottage. Krishna, after sometime went into 'Samadhi' and remained in that position for three days. During that period he felt that he went out his physical body and felt the presence of Lord Buddha and other mighty Beings. And when they were gone, Krishna felt supremely happy.

But all didn't go that smoothly. Krishna received a severe blow to his own beliefs in the intention and purpose of the Order of the Star in the East and in the power of the Masters when in November 1925 his beloved brother Nitya died. When the news of Nitya's death was broken to him by Mrs. Besant, he was totally shattered and his philosophy of life was equally affected. So far he had been advocating and urging people to strive, to pursue growth through disciplined efforts of the mind and will, and be ambitious in their aspirations towards the spiritual life. He said that one should use one's mind to drive one to a particular goal. But there are sometimes, turn-abouts in a man's thinking over the course of a life time. It happens many a time that our early beliefs and aims are replaced by some new ideologies as we get

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matured. Most of Krishnamurti's utterances during the years 1926-27 tended towards the mystical and rapturous, in contrast conspicuously with his later, lucid, spare no-nonsense manner.[2] These years saw the great transition of his life. He started as a mystic but later on turned to be an emancipator; from the public figure proclaimed by many as the Christ and a 'World Teacher', became a very private figure—a simple solitary man without any attachments. In one of his most revealing autobiographical passages contained in the *Early Writings*, Krishnamurti reflects

> In passing all those he (Krishnamurti) was able to arrive where all religions, where all affections are consummated, where all worship ends, where all desire ceases, where the separate self is purified by being destroyed. It is because I have gone through those stages that I am able to speak with the authority of my own experience, with the authority of my own knowledge, and I would give to you of that knowledge, of that experience.[3]

He, in fact, could foresee that if his followers had their way, a new religion, would be built around him, new rules would be formed, temples would be built and new systems of beliefs would be created. So the next step that he took was the formal dissolution of the movement that had been building up around him for almost two decades. That step needed extraordinary courage and conviction. Krishnamurti formally dissolved the Order of the Star at the Ommen Convention on the 3rd August in 1929 with a speech which he delivered to three thousand people. He explained :

> I maintain that Truth is a pathless land and you cannot approach it by any path whatsoever, by any religion, by any sect..... Truth cannot be organized; nor should any organization be formed to lead........ Truth cannot be brought down, rather than individual must make the effort to ascend it.[4]

Krishnamurti was now saying something which was so unexpected and so incompatible with the teaching and prophecies of Theosophy, that Mrs. Besant and many others had to admit in public their disappointment towards him. In fact that was a great turning point in Krishnamurti's life and philosophy.

Human Bondage

By the time Krishnamurti dissolved the Order of the Star he had attained the maturity of a great thinker whose perception of Truth was boundless and unmitigated by his own personal experiences. He was now talking of human freedom which has often been a suitable subject of reflection of many a great thinkers and philosophers in the past and present. But Krishnamurti's approach in this respect was quite untraditional. Before reflecting on freedom he enumerated the impediments which hindered the road to freedom. He thought that dependence, internal and external authority, fear and conditioning were the main barriers to human freedom.

(i) *The Problem of Dependence*

Krishnamurti contended that freedom could not be achieved through the pursuit of a methodology. When one tries to achieve something that way one has to strive and struggle, which involves an element of time and the idea that something is not but will be. That leads to dualism and conflict involving an actual as well as an ideal state which negates true freedom.

Clarifying the meaning of human dependence, Krishnamurti explains the various dimensions of dependence. He states that one depends on one's parents, teachers, cook, postman and so on. But that kind of dependence one can understand fairly well. There is a far deeper kind of dependence which one must understand if one wants to be free. Man is dependent on another for his own happiness. It is not the mere physical dependence on another but the inward psychological dependence from which he derives the so called happiness. As he grows older, he starts depending emotionally on parents, wife or husband or guru or on some idea. That dependence is the beginning of bondage. He becomes his own slave.

(ii) *The Internal and External Authority*

The inward psychological authority and external authority constantly go on constraining man's freedom. The inward psychological authority determines man's behaviour and starts influencing his thinking, feeling and experience from the early childhood. All the traditions, beliefs and ideas, even the language which man acquires from his social and cultural background, constitute the inward psychological authority. Krishnamurti reckons that words and thought are the real villain in respect of human freedom. Even knowledge, which is based upon thought, is bondage as it may diminish the freshness and authenticity of a new experience.

Similarly the order imposed from without, always breeds disorder. The authority of a book, a teacher, a wife or husband, a parent or a friend imposed from outside cannot bring any order or change. Even a pattern or formula becomes the ideology and authority which impose conditioning in human lives.

(iii) *Fear, a Barrier to Freedom*

Yet another barrier to freedom according to Krishnamurti is fear. There are various kinds of hidden fears which always lurk in human mind. Explaining the un-noticed dimensions of fear Krishnamurti remarks :

> I am afraid of the known, which means I am afraid of losing people, things or ideas, discovering what I am, afraid of being at a loss, afraid of the pain which might come into being when I have lost or have not gained or have no more pleasure.[5]

In one of his famous books entitled *Freedom from the Known* he explains patterns of thinking, which are often products of fear. Fear being one of the greatest problems in life, leads the mind to confusion and conflict, which end in violence and aggression. This state of mind is bound to lead man to live in particular patterns of thinking which create further problems. Therefore, such fears should be known distinctly. Krishnamurti says :

> We are all afraid about something; there is no fear in abstraction, it is always in relation to something. Do you know your own fears...... fear of losing your job, of not having enough food or money, or what your neighbours or the public think about you, or not being a success or losing your position in society....[6]

One of the major causes of fear, conceived by Krishnamurti, is that people do not want to face themselves as they are. So they develop a network of escapes to rid themselves of fear. Fear finds other escapes too. The common variety is identification. One identifies with the country, with society, with one's child, even with an idea. Therefore, fear must be abandoned if freedom is to be achieved.

(iv) *Conditioning*

Krishnamurti believes that throughout the ages we have been seeking something beyond ourselves, beyond material welfare.... something we call Truth or Reality or God. Perhaps in the moments of frustration man has invented faith–faith in a saviour or an ideal. But faith often breeds violence. Therefore it cannot lead to freedom.

Krishnamurti says that throughout the history of religion men have been assured by the religious leaders and saints that by performing certain rituals and by repeating 'mantras', suppressing their desires, controlling thoughts, sublimating passions and refraining from sexual indulgence, they are sure to find another world, called 'heaven'. As a result millions of people have lived either in isolation on the top of mountains or in caves or have wandered from place to place, forcing their minds to conform to an established pattern. This is conditioning. Besides ignorance and false beliefs also contribute to conditioning. Therefore, freedom implies the complete cessation of every kind of authority, fear and conditioning. From that quality of mind comes an outward freedom... something which is totally different from the reaction of opposing or resisting.

Search for Human Freedom

After explaining the various impediments which hinder man from perceiving the Truth or Freedom, Krishnamurti proceeds in search for freedom.

In fact, self-knowledge or 'Know Thyself' is the central theme in Krishnamurti's search for human freedom. In passage after passage Krishnamurti develops the theme of self-knowledge and contends that clarity about various problems of life comes only through self-knowledge. Without understanding oneself, one has no basis for thoughts; without self-knowledge, what one thinks is not true.

In order to possess self-knowledge Krishnamurti directs us towards the immediate necessity for insight towards clear understanding. He reflects that man's mind regards itself as identified with an 'I', which is often permanent throughout its existence—is the product of an automatic process. It is, therefore, absolutely necessary that man must clear his mind to the extent that he could see himself as he is in reality. To see oneself exactly as one is, is, for Krishnamurti, the truth. He explains :

> Let us not go any further, nor anywhere else. To be aware of what is in our consciousness from day to day, from moment to moment, when faced with a life's challenge, is, by itself, knowledge, complete, infinite, timeless.[7]

Thus, search for Truth or human freedom, for Krishnamurti, starts and ends at one point only. It is the knowledge of the self which provides the key to all human problems. He remarks that self-knowledge is action, immediate, powerful, concrete, the only one which can bring man out of the state of confusion. This action is an urgent, real and practical as leaping into a lifeboat at the time of a shipwreck.[8]

In the process of clarifying the meaning and concept of self-knowledge Krishnamurti leads us into a sphere where there are no words but silence only. But alongwith that silence one needs to strengthen a state of mind implicit with keen observation and great awareness, impartial, disinterested and simple. He highlights this state of mind by comparing it with the manner of a storekeeper who looks after the registering of coming and going of goods without contemplating the objects, in criticising or talking about them. His supreme interest lies simply in registering them.

Reflecting more on the concept of self-knowledge Krishnamurti mentions that a casual wish to know oneself would be of very little significance. Unfortunately even the most gifted men allow themselves to be hypnotized by the prejudices and beliefs according to which a state of absolute independent knowledge is inaccessible to them. One believes that one has an immortal soul, or that it does not exist. One believes that there is a creator or believes that the universe has grown out of a gradual evolution about which he does not know much. Krishnamurti says that if someone wants to know what he is, he cannot imagine or have belief in things which do not exist.[9]

Thus avoiding being carried away by abstract projections of ignorance and imagination, one can see that knowledge of the self is the knowledge of one's relationship to the world and men, for all individual problems are social and social problems individual. Krishnamurti remarks that no one can enlighten us better about the secret meaning of a reaction, a passing emotion or the cause of a thought than ourselves. 'Who can decipher our inward book, the words of which ever chase time, if not ourselves?' Therefore, it is not necessary to go and consult the wisdom of the sages to find out what is there in our hearts, except to know oneself. To follow that advice one must understand one's immediate reactions to the environment. Then the limitation of the 'self' or 'I' will be revealed. Total awareness starts with the realization of one's ignorance and impotence. But as long as the contradiction between the 'me' and the 'not-me' stands, there cannot be any hope of liberation. The opposition of the 'me' and the 'not-me' creates a veil through which no light can pierce.[10]

A Critical Perspective

It is now more than forty years that Krishnamurti's influence and impact have not been noted. Krishnamurti Foundations have sprung up in many parts of the world. His books and taped lectures are in great demand throughout the world. Yet such indications may be deceptive, as the listeners very often go home more confused than before.[11] His answers are abstract to the extent that they become ambiguous. Most of the time he talks of conditioning and asks us to be free from traditional and cultural barriers, which in fact have become part of our lives. Acharya Rajneesh often criticizes him as anti-tradition and anti-culture.[12] Besides, he is generally armed with one value only, self-knowledge, which according to him, is valid and effective both for individual and for society. Often he is called a dreamer and his weapon seems absurdly, inadequate. The philosophy of 'Know-Thyself' may not lead us very far, and it would be an error to agree to it in totality for it will shatter our inner world and make us lose our own identity. We shall no longer know what we are nor even if we are anything at all. To speak of totality, of the absolute, is to speak of the death of the mind.[13] These unique expressions of Krishnamurti are often beyond the conception of ordinary man. To some, his doctrines sound like a mystical nonsense. Luis S.R. Vas says that the most common charge brought against Krishnamurti is that his philosophy is not sufficiently positive.[14] Should we then understand that he really failed ?

But if we examine Krishnamurti closely, we find that though his explanations are difficult they are convincing. In fact, he does not mince words. He is in the habit of charging plain and commonplace words with some unusual and unexpected meaning. He speaks words which sound to us very homely, but there is variety and depth of import and significance. In that way he is one of the greatest philosophers of the modern times as his art of revealing the hidden and unknown sides of things is unique. He shows them from some unexpected angle. His clarity of expression often surprises us and we are bewildered when we read him. It is often seen that in handful of words he presents before us all the secrets of the universe.

Krishnamurti is mainly concerned with immediate transformation in his listeners. He does not believe in teaching but likes to wake people up, sometimes being frank to the extent of rudeness. In fact he is not rude. Truly speaking, in his case the emergence into reality was preceded by a most violent revolt against all authority and all tradition. He got enlightenment, not through obedience and conformity, but through revolt and refusal. Therefore, the liberating value he gives to doubt and denial of all accepted values, is of great importance.[15] The truth is that he does not desire us to be in rebellion against all authority, but he simply wants us to examine the values which authority seeks to impose upon us and to accept them only after due examination. Man's salvation thus becomes the fruit of his own courage.

In fact Krishnamurti invokes in each man the thought of liberation by freeing himself from the obstacles like rituals and religious authority and by renewing the creator which dwells potentially in each of us. In this respect he is unparalled and most distinguished among the modern philosophers.

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FAULKNER ON LITERATURE AT WEST POINT

S.R. Julka*
Hemant Gahlot**

"*Faulkner At West Point*" contains interviews that Faulkner granted at West Point. The book edited by Joseph L. Fant III and Rober Ashley (Now York, Random House, 1964) is a true and moving account of Faulkner's opinions on various issues that are related to writers as well as writing in general. He also commented on some of his own works on which questions were asked by the cadets of United States Military Academy at West Point on 19th and 20th April 1962.

Faulkner was born in New Albany, Mississippi, on Sept. 25th, 1897. He was the eldest son of Murry C. Falkner and Maud Butler Falkner. His grandfather William Cuthbert Falkner had a great influence upon the creative faculties of the writer. William Faulkner was a born story teller. His failure in love did make him a poet but as he himself said once that a failed poet becomes a short story writer and failing at that he turns to novel writing. Hence he too became a failed poet. During forty years of creative writing, Faulkner wrote about nineteen novels and more than hundred short stories. He was awarded many prizes in literature including the most coveted Nobel Prize in 1950. He died on July 6th, 1962 at Oxford.

Faulkner firmly believed that the writer's task is "to uplift man's heart by showing man the record of the experiences of the human heart." How far he himself has fulfilled this task–Faulkner makes no claims: "It's possible .... that I haven't. I think that is the writer's dedication. Whether he is successful or not is something else. Probably the only reason the poet ever writes another poem is that the one he just finished didn't quite serve that purpose–wasn't good enough–so he'll write another one."

Although Faulkner was awarded the Noble Prize in 1950, ink kept flowing from his pen and produced six novels '*The Fable*', '*Big Woods*,' '*The Town*,' '*The Mansion*,' '*Reqiem for A Nun*,' and '*The Reivers*.'

Faulkner believed that "The primary job that any writer faces is to tell you a story, a story out of human experience–I mean by that, universal mutual experience, the anguishes and troubles, and griefs of human heart, which is universal, without regard to race or time or condition. He wants to tell you something which has seemed to him so true, so moving, either comic or tragic, that it's worth repeating." He continues to reveal his innermost thoughts on the subject:" the writer is simply trying to tell a story of the human heart in conflict with itself, or with others, or with environment in a moving way." There is a great variety of questions answered by Faulkner but the most prominent of them are those where he showed his concern on why a writer writes what he feels toward an experience or a thought or an event. The book or the interviews (because they form the three fourth of the body of the book) can be safely called a treatise on Faulkner's concepts of a writer and his writing. There is a kind of accumulation of ideas expressing a writer's deep concern for his job. When asked about the spirit of nationalism in literature Faulkner denied all such claims saying that "If a spirit of nationalism gets into literature, it stops being literature." For him, writing about the problems of 'human heart' which is the primary object of any writer, works without the considerations of race or color. Commenting upon his dealing with the perversion and corruption in men, he explicitly stated that a writer or any other artist for that matter–be it a poet or sculptor–most show man "not when he's dressed up for Sunday, but in all his phases, his condition." He believed firmly that all literature arises from a passion and agony of the heart. All through his life Faulkner showed a great deal of optimism for the goodness and grace of a human being. Faulkner was optimistic to the very core of his character. Even in his personal life he adhered to this hope for the best–be it his love affair or the problem of getting his works published.

Faulkner, at least in the beginning of his career, never seemed to be concerned with his audience. In an interview with Jean Stein he said that with the publication of '*Soldier's Pay*', he found that writing was fun. At West Point he repeated the same idea: "I think primarily the writer, the artist works because it's fun. He had not found anything that is that much pleasure." Faulkner never formulated anything as the technique of his story writing nor worked under any formulated set of orders. He wrote things as they came to his mind without even bothering about who is going to read it. For him the 'passion and hopes of man's heart' were above all other considerations. They are the supreme verities about which a serious writer like Faulkner always felt not only responsible but

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also committed. In his works, Faulkner always showed a deep concern and anguish for the dilemma of human heart, be it the evil of racial segregation in his own country–the South (he proudly called his own country, the South), or the problems of war amongst nations, or the uncomfortable disharmony seen in human relationships. Wherever he saw it, he kept portraying it as long and as movingly as he could till the last breath of his life.

Faulkner's faith in the survival of the human race is great and endowed with future apprehensions about the situation of the world at large. He not only believed but also advocated in his works the endurance of the human race in the times to come. Man will survive under all circumstances--physical, environmental, even psychological (the nervous breakdown etc). For Faulkner it is all 'ephemeral' and in the long run man shall improve and survive to see all evils evaded from this earth. "But man in his essence, in the long view doesn't change. I like to think that he improves gradually–very slowly. The individuals enter the human race and they may break down, collapse, they may make trouble, and they are gone–their tenure is ephemeral, but man himself, in that continuation, I am convinced, improves. In time, he will get rid of all evils that he can't cope with–he will get rid of war and disease and ignorance and poverty in time. It may be a long time, and we won't be here to know it, but I'm convinced he will."

In his speech of acceptance upon the award of Nobel Prize he enunciated the same faith, the same indefatigable spirit. "I believe that man will not merely endure: he will prevail. He is immortal, not because he alone among creatures has an inexhaustible voice, but because he has a soul, a spirit capable of compassion and sacrifice and endurance." And what the writer must do is "to write about these things."

Faulkner didn't distinguish any piece of literature as good or bad. But he had a very clear idea of what to read and why. At West Point, the instructor asked his recommendations about what to read from amongst his own novels. What he said shows his sensibility as well as his sense of responsibility, as a reader, towards the world of literature. "To my notion literature is such a pleasant thing, having kept it amateur, that I wouldn't advise anyone to read or write either as a job or duty. But I would say that read everything. It don't matter what it is. Trash, the best, the worst, read everything... But I would read for pleasure...."

Asked about the sources from where he drew his material Faulkner expounded his three tank theory. "The writer has three sources: one is observation ; one is experience which includes reading; the other is imagination, and the Lord only knows where that comes form. It's like having three tanks on a collector–you open the collector valve, you don't know exactly how much comes from any one tank, so no one can say just where anything comes from—whether he imagined it, whether he saw it or read it or heard it."

Although Faulkner agrees with Tolstoy that great literature is something that taught a lesson that was applicable to all mankind, but made it very explicit that "the lesson is coincidental, even accidental" and what a writer does is merely tell "about people involved in the passion and hope of the human dilemma." How does he tell it ? The major sources which help him to present a true and moving account of the passion and hope are as stated above–observation, experience and imagination. It is, in fact, the sum total of all these three that bring about the readability and substantiality of a story.

Literature serves as a great storehouse of ideas and emotions. Great literature as has already been mentioned, is capable of teaching lesson which would be applicable to all mankind. Without the help of literature, the very existence of intellect and emotion shall become dubious. Life without literature will become meaningless. They are so intrinsic and interdependent that without the one the other ceases to be. It is, in fact, the very essence of life—the vital force, the props and pillars of the human race.

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BERTOLT BRECHT
AN ICONOCLAST IN THE THEATRE

Biplab K. Mazumdar*

No bitterness could put out his cigar,
Or check the stubborn twisting of its smoke:
Confronted with the facts, he saw the joke.
The moral of the play ? 'That's how things are'.

Language to him was like a favourite stick:
He used it for the sense, nor for the rhyme
To mark the fierce divisions of our time
The inconsistencies that make it tick

He spread the word he said the awkward thing
Upset the State, the Police, was not polite
Made trouble, got the theatre arguing ....

Out theatre like our time, is out of joint
And he is dead, who tried to set them right.

Those who come after us will see his point.

Bertolt Brecht. At this name many of the cultured reach for their revolver, and it is easy to see why. It suggests three things to them, all equally unappetizing. First, the highly spiced 'decadence' of the Berlin of the 1920s, whose classic expression was in Brecht's *Dreigroschenoper* (1928), a work that riles them both by its distortion of Gay's original and by the oddity of its picture of Victorian London. Second, the political control implicit in Brecht's position in East Germany and notably in the revisions made to his opera, '*Lukullus*' (1939-51) together with the explicit political preaching of his communist orations. Third, the huffing and puffing of so many theatre experts who have blown up his various notes on production to a thick Wagnerian fog where inhuman like Epic Drama Alienation, the Gestus, the V-Effekte lurch portentously about. We hear that Brecht's plays, produced with great originality and driving force by the (East) Berliner Ensemble, have swept the Continent carrying away one or two British critics who had rashly left home. We have a well-meant but not entirely faithful Anglo-American version of '*The Three penny Opera*' running in London at the moment. But the best known of his later plays, under the pious title of '*Mother Courage*', has been tepidly received, and all that we get from his work may prove to be a fresh bag of tricks, gadgets and gimmicks: the most obviously eye-catching and best worthwhile features of his production methods: the titles, the masks and the great padded out figures, the bald lighting and the eternal rags and tatters.

There seems to be no adequate English version of a single Brecht play; the German scholars and, to a surprising extent, our libraries have shunned him; his chief advocates have been theatrical enthusiasts without much knowledge of German.

He has had to pay for the sharp passions and pugnacious over statements of his twenties and thirties. In 1933, when he left Germany for Denmark, he was just thirty five, and much of the evidence against him dated from before that time: the often-quoted table contrasts between 'Epic' and Aristotelian theatre, the early nihilist works with their cynicism and romanticized violence, the dramatic cantatas, justifying not apparent humanity. His twenty or more full length plays, his dozen cantatas and oratories for stage or radio, his four adaptations and three films, his five books of poems and single published have never been judged as a whole. The stimulus which they could give has reached neither our writers nor our theatre and the best part of Brecht remains cut off as by a wall.

It is not surprising. Even to those most familiar with German, or with communist writings, he must appear as a man from Mars. Luther, Buchner and Grimmelshausen were the only German writers to whom he can be at all closely related; his models were Rimbaud and Kipling in his early works, Villion and Tin-pan Alley in his operas with Weill, then Hasek and Shakespeare and the Chinese and Japanese translations of Mr. Arthur Waley. He is an eclectic with a double bias: Oriental (like Claudel) and Anglo-Saxon (like the German Dadaists) not really the man to suit admirers of Kafka and Rilka, let alone those of Herr Ernest Junger. This bias accounts for a good many eccentricities in his work: the fake Chicago, the fake London, fake India and fake salvation array of his early plays, the self-conscious Chinese settings and the Japanese dramatic methods of some of his later ones.

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Bertolt Eugen Friedrich Brecht was at once a moralist and a social worker as well as a reformer. He felt that there is a science of society, as capable of transforming our world as the other sciences, but that interested parties suppress its findings and prevent us from acting upon them. This is possible because men on the whole take their social conditions for granted, seldom regarding them with scientific detachment that is the basis of all discovery. Thus his first concern is simply to open men's eyes, to give them this detachment so that they wake up, astounded to the muddled and inefficient world, in which they at present live. His second interest lay in the impact of that society on the individual and particularly on his moral possibilities. The confusion of ethics in a confused society means that evil actions may be undertaken from good intentions or that good actions may have evil consequences or that evil intentions may be thrust on men who carry them out labouriously and with reluctance: in short, that the individual is often a strange mixture of extreme good and extreme bad, fascinating and difficult to judge. Since the anti-Nazi and anti-War works of immediately before the War, Brecht's plays had been centred in these more general problems and he had avoided the topical or specifically political subjects that occupied him earlier.

These aims determined both his language and dramatic form. In his essay, '*On Unrhymed Verse With Irregular Rhymes*', he describes how, after his early Rimbaud period, he decided to translate Marlow's *Edward II*: the first instance of his life-long interest in the Elizabethans.

"I needed elevated language, but was brought up against the glutinous smoothness of the usual five-foot iambic metre. I needed rhythm, but not the usual jingle". Wishing to show human relations as contradictory, violent, fiercely disputed, he began to use firm but irregular rhythms, such as he knew from his own settings of his early ballads to be very suitable for singing. He was always thinking of actual delivery. In this way he hoped to make clear not only the meaning but the force of the underlying attitude, which the audience might otherwise miss.

Punch and clarity were the object; street cries, advertising slogans and the Lutheran Bible the models. Yet in spite of Brecht's love of the vernacular and of the deliberate intelligibility of his images, his verse has the dignity lacking in that of other colloquial poets. By 1929, he was evolving a strong, austere style whose simplicity of expression did not preclude either subtlety of thought or sensitivity of feeling. About this time he came on what has remained the closest English equivalent of his own work.

The Japanese theatre, in which he became interested and the application of its technique to problems of communist morality during the three savage years before the Nazis came to power, gave him a conception of the stage that seemed new and revealing; and it is on this revelation that his best known theoretical writings are based. In the *Anmerkungen Zur Oper* (1930), he outlined the theory of a drama which should ignore plot and at the same time prevent the spectator from losing himself in the story and the characters: a kind of dispassionate dramatic inquiry, illustrated by the actors in a series of sketches and designed to put the audience in a critical frame of mind. But here the baby was discarded with the bath water; all idea of entertainment was scrapped; and so when Brecht began again to cast his plays in a more Elizabethan form, to give them something of a Shakespearean swing and vitality, and to study society through its impact on real characters, the theory no longer properly applied. By 1948, he had rewritten it in seventy seven sections - an outline of a theatre for the scientific age. Yet even this, expressed in a wonderfully lucid, energetic German prose and containing a classic attack on the orthodox stage, is a risky guide to his plays, and Brecht himself, according to Theatrearbeit, does not wish it to be used as such. Here is his answer to an actor who asks whether his technique of estranging the audience is not rather inhuman : "In my view that is not the case. I suppose I give such an impression by my style of writing, which assures too much as self-evident. Drama my style. Of course the stage of a realistic theatre must be contradictory human characters, with all their passions, unconsidered utterances and behaviour. The style is not a hot house or a zoological museum full of stuffed animals".

Seriousness, fire, jollity, love of truth, inquisitiveness and sense of responsibility were taken for granted in his theory and what remains is deceptively chilly.

The cold austerity with which Brecht has thus become associated is often condemned or cherished as being communist art. This is wrong. For although it is true that Brecht regards the science of society as coexistence with Marxism, and although a real sympathy with communism and the USSR led him at times to write on themes dear to the party, his outlook and methods are personal, and quite foreign to orthodox Russian aesthetics. Thus in America he be labelled a ministrel of the C.P.U., but in Russia and even in East Germany he is a formalist. In a sense it is inevitable. Brecht's sardonic scepticism was distasteful to any ruling group, specially one that relies on discipline and enthusiasms. Marxism there has to be born of faith, not doubt. But Brecht's independence is also explicit, for he admits his islike of the methods of Stanislavsky (the canonized nodel for the orthodox communist theatre) and is himself much closer to the bare, disillusioning constructivsm of Meyerhold and the making strange of the formalist critics: outcasts of social realism.

In his theoretical writing he never allowed that the alienation of the spectator could be overdose, so that he simply gets bored and wants to leave the theatre, and by tricks like the cinematic titles between scenes, he risks irritating him to no useful purpose. In fact, the logic of Brecht is that it would be best for the production to be very bad indeed, so that curtains stuck, wigs fell off, and the whole audience were made thoroughly uncomfortable.

These special quarks of Brecht's are confusing. For to make an audience thoughtful and criticial is not to do it with gratuitous conclusions; to study society scientifically is not to fake the evidence; to make the spectator take a detached view does not mean leaving him outraged or bored. Nor is any kind of bigotry compatible with the principle which Brecht puts in the mouth of Galileo: "As for what we went to discover, we shall view it, once we discover it, with particular mistrust". The broad aims in which Brecht believes are sound and good and of general relevance: and where he sticks to them he is unmistakably a great writer.

No dramatist of ideas does less to hoodwink or dazzle, no man of the theatre so coordinates argument, fact, music and poetry or can present them with such momentum.

What we now need is a proper English analysis of all his works, and a serious and coordinated scheme of translation. Without it the obstacles to understanding are too great: the second or third hand reports the fashionable contempt, for all that comes from behind the Iron Curtain, the money red-herrings. For by national affiliation, by political allegiance, and above all by the sheer extent of his own achievement Brecht is still remote. We are still at the stage where we feel vaguely that theatre is something in the wind; where producers and impresarios clutch at the most conspicuous straws.

For Brecht is so individual a writer that he has to be thoroughly understood if he is to be played at all. That is the reason why he has so far escaped our grasp. To those who begin to see him as a whole every other living playwright seems more or less trivial.

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Laubach and the Challenge of Illiteracy

M. M. Ansari*

Literacy is a decisive factor in liberating individuals om ignorance and exploitation, and developing sociy. The evidence has established that countries with gh illiteracy have high mortality and short life expecncy rates and a large proportion of population below overty line. Most children in such countries are underourished; and the minimum basic needs for a decent uman living are hardly met. Contemporary evidence n the effects of literacy and continuing education prorammes convincingly show that more of education leads o more income, a narrowing of income differentials, educed level of fertility, better health and nutritional tandards and high life expectancy. There is thus a strong nd positive relationship between education and factors ke the availability of new crop varieties, fertilizer, xposure to extension services, etc., as a result of which, he more educated not only produce more from a hecare of land but also make larger income in off-farm acivities. Likewise, when the gross output and earnings of industrial enterprises having manpower with varying evels of education are compared, it emerges that enterrises having more educated manpower maintain higher roductivity than others. The relationship of education o health, nutrition and fertility is similarly strong and ositive. In general, more educated people, especially women, tend to have not only fewer children, and beter health and nutrition standards but also create conditions for expediting the process of learning and eradicating mass illiteracy. Education is indeed very effecive in the development of social, political and personal values. It can thus be argued, *a fortiori*, that eradication of illiteracy is a must for social upliftment and economic progress of the country. Since the dimensions of the twin problems of poverty and illiteracy are complex, a multifaceted and integrated approach has generally been adopted to overcome them.

The book under review *Each One Teach One : Laubach's Materials and Methods*, edited by S.Y. Shah (Indian Adult Education Association, 1991) deals with life and work of Dr. Frank C. Laubach who dedicated his life to the cause of liquidation of illiteracy and is therefore referred to as the 'father of adult literacy movement in India'. His contributions reveal that he was aware of the poverty-illiteracy syndrome with which most people in the developing world suffer. Poverty and illiteracy reinforce each other and create conditions of a vicious circle in which people get caught. From his writings, it emerges that, to Indian leaders and planners, economic problem has been far more pressing than liquidation of illiteracy. As a consequence of low priority to education, in spite of four decades of planning process, none of these two problems has been effectively tackled as the absolute number of both poor and illiterates have increased over time. What Laubach had said as far back as in 1938 that "it is a major mistake to improve the economic condition and leave the people ignorant. The eight per cent literates in India (based on 1931 census) who are trying to lift 92 per cent who are illiterate must combat inertia at a tremendous cost of effort with but meagre result". Laubach suggested therefore that "the best way to help people is to give them the tools and the training that will help them to help themselves. Teaching men how to tap the wisdom of the world which is stored in the books, is one way to do this - we are convinced it is an indispensable way". And to realize the objective of making a person literate, he said "every one who learns has got to teach ..... you cannot have another lesson until you have taught someone else the lesson you have just learnt". He thus adopted the principle of 'Each One Teach One'. It seems to us that had this principle been adopted by the educated persons in a true spirit of service to the community, the growth of literates could have taken place at the rate of geometrical progression and the problem of illiteracy could have been tackled long back. It does not require, in our opinion, as much of financial resources as the mobilisation of educated persons with a strong will and determination to combat the problem of widespread illiteracy which is a matter of shame to the Indian society.

Even today with about 52 per cent literacy rate, it is possible to make the remaining 48 per cent literate within a period of 3-5 years which normally takes for an illiterate to become literate, provided, of course, the principle of "each one teach one" is vigorously followed and effectively implemented. Many countries which are at the comparable stage of development with India have been able to eradicate illiteracy. There is, therefore, enough reason to believe that India having one of the largest education system in the world, which can provide the needed teachers, trainers, preparators of learning materials and educators of literacy programmes, it should not be difficult to impart functional literacy to about 100 million existing illiterates in the age-group

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15-35 by the year 1995, since the size of students, teachers and other educated persons is higher than the size of illiterates in the above age-group.

In this context, the publication of the book under review is most timely as it provides the relevant details about the methods and materials used by Laubach for making millions of people literate. All those who are necessarily concerned with various aspects of Mass Functional Literacy Programmes, might find the materials contained in the book useful in tackling the problems that arise at different phases of their work. The contributions of Laubach are presented in four parts. Part one describes the main motivating factors, which were partly humanitarian, partly educational and partly political, that encouraged Laubach to champion the cause of adult education in India. A selection from writings and speeches delivered by Laubach on different aspects of adult education are analysed and presented in part two, which give an idea of the approaches that were adopted by him to sensitize the masses for the promotion of literacy in India. It clearly emerges that Laubach laid due emphasis on the role of literacy for self-reliance, survival of democracy and finally for realizing the goal of universal harmony. All these have had mass appeal for accelerating the tempo of social mobilisation for making the literacy campaign a success. In this process, he also established contacts with prominent Indian leaders namely Mahatma Gandhi, Jawaharlal Nehru, Maulana Azad, Rabindranath Tagore, Vinoba Bhave and others. He played a key role in literacy movement and sought their support and cooperation to make India fully literate. Laubach's correspondence and gists of discussions during meetings with the Indian leaders are provided in part three, which gives an idea of the views of the planners and educationists about the constraints and the approaches to deal with the challenge of adult illiteracy in India. Lastly, part four, lends perspectives on the strategy adopted by Laubach to teach illiterates. He analysed the psychology of illiterate adults and differentiated with those of children; and laid emphasis on the art of motivating and teaching them to read. In this context, his detailed methods and guidelines for teaching illiterates on 'each one teach one' basis are relevant and are therefore followed even today. This section of the book also provides the techniques of training adult educators, preparing materials and developing guidelines for the writers of neo-literates. The relevant methods as evolved by Laubach would be much helpful to all those who are associated with the adult literacy programmes.

At the time when the nation has launched various schemes under the aegis of National Literacy Mission, which are vigorously pursued so as to liquidate illiteracy by 1995, the publication of this book by the Indian Adult Education Association is most welcome. The efforts of the author, who is a renowned scholar of adult education, in bringing out the book at the present juncture is very timely and commendable indeed. It may be hoped that the author being in a key position and associated with the Planning Commission, would be able to persuade the planners to assign top priority in the forthcoming Eighth Five Year Plan for removal of illiteracy within the stipulated period, lest we should be called a highly illiterate society in the world. Our success in this area would really make us worthy of one of the largest education system and educated manpower in the world.

Let us hope and resolve to make India fully literate, which is not impossible. We must remember what Laubach said, "Making a man literate pulls him from the edges of society, where he has lain stagnant mentally, into the current where he will be swept onward as a part of the great, moving course of human history. Some illiterates will never go far, but others may develop genius. Adults differ more widely than children do. There is many an Abraham Lincoln who awaits only the opportunity that Lincoln found in his log cabin, as he read a few books before the fire. Even if the new literate does not go far himself, the door has been unlocked for his children, and for his children's children".

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FREEDOM MOVEMENT AND ITS IMPACT ON URDU FICTION

S. Abdul Kareem*

A nation's literature in the language of its people does reflect, albeit in a small measure, the great events that shake the world and make its history. The first fifty years of Urdu literature of the 20th century, to be precise, before 1947, the year of India winning its freedom, do present as in a kaleidoscope, new patterns that emerge at every turn, with a rare impress that art can transform the many facets of history. The Russo-Japanese war of 1904-5, the partition of Bengal (1905) and the great upsurge it created in the psyche of the awakening nation, the Jallianwala Bagh tragedy of April 1919 and the cleavage it created in the rank and file of the movement precipitating in the polarisation between the moderates and extremists bordering on terrorism of whom the illustrious trio, Bal, Pal and Lal[1] struck fear in the minds of the rulers, the Theosophical movement of Madame Blavatsky and Mrs. Annie Besant who in turn advocated the Home Rule League, the missionary zeal of Swami Vivekananda in his advocacy of Vedantism, the call for complete Independence at the Lucknow Session of the Indian National Congress, 1929, the Swadeshi Movement boycotting the foreign goods and the Satyagraha that culminated in the Quit India Movement clinching the transfer of power at the stroke of the midnight hour when India awoke to freedom–all these are the formative forces that conditioned the times and shaped the literature that flowed from the pens aflame with patriotism and national fervour.

Naturally, the growth of the national sentiment which became more pronounced at the beginning of the century, has to be traced back to the founding of the Indian National Congress in 1885. The dress rehearsal for the future struggle for freedom in the words of Prof. Khawaja Ahmed Faruqui[2], was felt perceptibly in the mutiny of 1857, which was a 'rebellion–revolution' according to Dr. Duff[3]. The trading concern of the East India Company became the Jewel in the British crown by 1813. The mercenaries gave place to missionaries. The spread of Western education, the researches in the ancient Indian civilisation by the orientalists of the calibre of Max Muller, the writings of Mrs. Annie Besant and Swami Vivekananda fed the flames of nascent nationalism. The vibrant note of nationalism was heard in the early poetry of Iqbal. Young Iqbal greeted the rising sun of nationalism with his poems like *Sada-e-dard*, *Tarana-e-Hindi* and *Nia Shivala*. Pandit Brij Narayan Chakbest's "*Subh-i-Vatan*" is shot through with national sentiment. The resounding victory of Japan, an Asiatic country, over Russia shattered the myth of Eastern inferiority. A wave of confidence swept over the sub-continent at the turn of the century and national horizon was overcast with patriotism and it loomed large and lingered for much longer so much so that it is no exaggeration to identify the Indian Renaissance in the rise and growth of nationalism.

Unlike poetry, fiction in Urdu is of recent origin, whose historicity is not more than a century. The term fiction includes novel as also the short story, though narratives and romances may lay a claim rather undeservedly to be termed so. Urdu fiction abounded in 'Dastan' or Cycles of legends, mostly Persian translations outlining supernatural stories of adventure, love and chivalry. Despite the initial attempts in this new realm of fiction made possible by Nazir Ahmed, Pandit Ratan Nath Sarshar and Abdul Halim Sharar, Mirza Hadi Ruswa's *Umrao Jan Ada* is remembered as the first regular novel in the form of the autobiography of a cultured nautch-girl of Lucknow. The truth of fact as gleaned from the chaff of fiction has assumed an integral part of the novel. The French Nobel Laureate, Andre-Gide (1869-1951) touched the heart of the matter when he said: "I should like a novel which should be at the same time as true and as far from reality, as particular and at the same time, as general as human and fictitious as Athalic or Tartuffe or Cini." According to him, the Naturalist School while presenting "a slice of life" time and again has always cut the slice in the same direction in time length-wise though not in its breadth. It is a sad commentary that the novels of the late nineteenth century could hardly depict immortal characters other than those of *Umrao Jan Ada* of Ruswa and *Khoji* of Pandit Ratan Nath Sarshar.

Naubat Rai, to give Premchand his first pen-name, created for the first time in Urdu fiction what he himself called "the literature of a people." The renowned Urdu poet and freedom fighter of international repute and Lenin Peace Prize winner, Faiz Ahmed Faiz established convincingly that Premchand and his chosen

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contemporaries played a significant role in bringing Urdu out of the court-like drawing rooms of the elite and firmly planted it on the secure foundations of village life, where he discovered the roots of our culture. As a poor School master he depicted the deprivations and misfortunes of the insulted and himiliated people not as an outsider but as a fellow-victim. In his hands, Urdu and Hindi fiction became truly "declassed".[4] His penchant ultimately paved the way for the Progressive Writers Conference and he presided over it.

'*Soz-i-Watan*', his first collection of five short stories was published in 1908. Of the compelling necessities that created these pieces of inflamed patriotism, he himself wrote: "Bengal was already patitioned in those days and a radical group in the Congress had come to be formed. I have sung songs of patriotism in those *five stories*.[5] The British government of the day called it sedition, it was legally prosecuted and seven hundred copies were set on fire. Literature-burning of this repressive type fanned the flames of patriotism. The self-effacing gallants of these stories are the shining example of martyrs of the momentous period of Indian history. "*Duniva ka Anmol Ratan*" (The most Precious Jewel in the World; 1907) is the story of a Rajput wounded on the war front who breathes his last with his cry "Bharat Mata Ki Jai" on his lips. Dilfigar, out in search of a priceless Jewel, to win the hands of Princess Dil Fareb, in the tradition of romantic Dastans, discovers a tablet by the side of the dying soldier on which the statement was inscribed : "The last drop of blood shed in defence of one's country is the most precious thing in the world." Yet another place of this collection was "*Aishe Duniya Aur Hubb-i-Watan*" (love of the world and patriotism) (1908) revolving on the life of Italian patriot, Mazzini. Garibaldi and Swami Vivekananda figure prominently in the other two stories.

The Jalianwala Bagh massacre of the innocents (1919) killing five hundred and nine and wounding as many as 15,000, master-minded by General Dyer is the most traumatic experience that fanned the flame of national discontent. It smouldered in the terrorism which otherwise had kept the British masters guessing. The twenty first Congress Session passing the boycott resolution was held in Benaras. At Gorakhpur Premchand came under the influence of Mahatma Gandhi campaigning for non-co-operation in his inimitable style. Of this abiding impact, Premchand records : "Qalam Ka Sipahi" since service in his view was tantamount to servitude which his temper ill brooked. Hence he made the choice–living by his pen and writing for his country's freedom without effecting any compromise with forces of injustice and tyranny. Despite his presentation of terrorism in his writing he remained non-violent to the core. Vinod's mother in the story *Qatil-ki-Man* (The Murderer's Mother) becomes his mouthpiece in advocating Swarajya not through violence but through the efforts of the people. In another story, "*Qatil*" (Murderer) the widow of the political prisoner is pitted against her terrorist son, Dharam Vir who says : "If we kill all Englishmen, we shall get freedom in a day. Russia got her freedom thus, Ireland got freedom thus, and India will also be free thus." The mother's mature prospective is really astounding as she replies : "Don't talk like this, my son; Do you think we shall be free if we kill all Englishmen ? We are not their enemies; We are enemies of the present form of government. If the reins of such a government are in the hands of our countrymen to as great an extent as they are today, then we shall oppose it too".

Dhanpat Rai of the Kayastha scion family who assumed the pen names of Nawab Rai and Premchand, had learnt from a Moulvi, Urdu and Persian, the Languages his ancestors had adored in the Moghul Courts. In the late nineteenth century North India these languages had acquired a secular and cosmopolitan ethos. The polarisation between Hindi or Hindustani (a camouflage for Urdu according to Moulvi Abdul Hug) gained momentum from the Nagpur Session of the Congress. The favoured forms of cultural expression of the 19th century, namely Urdu and Persian, did not fare well in the 20th century when Hindi made a headway overwhelming its rival, Urdu. The policies of the British have been too subtle, driving a cleavage between one people. Suresh Renjen Bald[6] states that Nawab Rai assumed the name of Premchand to evade the wrath of the magistrate who had all his copies of '*Soz-e-Watan*' burnt on charges of sedition. By practising a bilingual approach he built bridges of understanding between Urdu and Hindi. For him Urdu and Hindi were the two sides of the same coin. It is true that a writer chooses a language as much as a language a writer, in the words of Dr. K.R.S. Iyengar. After all, language has a genius of its own. A writer whose passion is freedom, forte reform, is bound to choose a mass media to reach out greater readership.

Instances are aplenty to exponerate Premchand from the charges of linguistic chauvinism and bigoted communalism. He paid tributes to all brothers comparing them with Rama and Lakshman. In his short story '*Idgah*' (1933) he touched the hearts of his readers arousing sympathy in portraying the characters of the grandmother Amina and the grand child Hamid. The old lady in '*Hajj-e-Akbar*' evokes pity. '*Muaff*' (Pardon) (1917) presents the magnanimity of Shaikh Hasan, who stops reciting the Holy Quran to give shelter to his son's murderer, David, chased by inflamed Muslims. He pardons the murderer of his son as Islam does not permit killing a refugee. When Chatur Sen Shastri came out with a book '*Islam ka Vish Vraksha*' (The poison tree of Islam), Premchand protested against it in his Hindi Magazines '*Hans*' and

'*Jagran*' and fully and whole-heartedly supported Banarasi Das Chaturvedi's counter exposure. He wrote a drama, '*Karbala*' on the great martyr of Islam, Hazarath Imam Hussian and in the fictitious realm of drama introduced a Hindu character Sahas Rao who joins the Imam's mission and sacrifices his life for a noble cause. Historical authenticity apart, the drama glows with the purity of its spirit.

To Premchand, freedom meant freedom of the masses. The enemy of freedom was the enemy of people. His stories reflect as much the hypocrisy of the high as the depravity of the down-trodden. Feudalism drew his ire as vehemently as imperialism. His famous story "*Shatranj-ke-Khiladi*" (1922) shows the two main characters, Mirza Saheb and Mir Raushan Ali as typical examples of faded glory of the feudal times, who are the exact counterparts of T.S. Eliot's Hollomen, their head pieces filled with straw. They outdid the English rulers and sucked the blood of poor peasants parading themselves as paragons of virtue and defenders of religion. The life of Harijan farm labourers who are victims of fedual exploitation is strikingly depicted in '*Kafan*' (The Shroud) (1935) through the characters of Ghisoo and Madhav, father and son, who raised a sum for the cremation of Budhia, the former's daughter-in-law and latter's wife. Instead of buying a shroud for the dead, they spent the collected amount over a bottle of wine and indulged in an orgy of dance and song till they fell unconscious. The story perambulating between the parameters of death and dance is a fine piece of neo-realism acknowledged as his gift to Indian literature. The irony of the statement reaches its pinnacle : "One who cannot get even a rag to cover one's body in life should acquire a new shroud in death". The nationalist he was to the core, he longed for the emancipation of the untouchables as painted luridly in "*Kafan*".

From the short story to novel, the transition is not a change for the better. Premchand felt compelled to write novels on his perceptions of gender equality that came in the wake of women's participation in the freedom movement. His wife, Shivarani came under the spell of Smt. Swaroop Rani, Jawaharlal's mother, when the latter visited Lucknow in 1930. The freedom struggle accentuates his agony for helpless women. In '*Ashian Barbad*' (1931) Premchand presents a pathetic picture of Chhama, whose husband and sons have been killed in the Jalianwala Bagh tragedy. The soldiers of the Satyagraha movement are the common men as in "*Chaugan-e-Hasti*". (1927) where Surdas, a blind begger blurts out : "What if lost, we did not flee from the field; we did not cry; we did not play foul. We will play again. Let us rest a while. One day or the other we will win; surely we will win." Thus Premchand has transformed the ordinary folk who otherwise would have been merely 'dumb driven cattle' and invested them with a grandeur and humanity. *Maidan-e-Amal* (1932) is replete with revolutionary fervour. It presents the country in revolt unrolling a galaxy of characters fired by patriotism. Lala Amarnath and Samarkanth depict the Nehrus, father and son, Amarkant being a Municipal Commissioner, sells Khaddar, the "Livery of freedom" and says "According to me the salvation of the country lies in social revolution – a revolution which is universal, which annihilates the false principles of life, tolls the knock of fatal rites and ceremonies." In the words of Prof. Prakash Chandra Gupta, "Like Gorki's *Mother*, this novel is almost a treatise on how revolutions are made."

'*Godan*' is his masterpiece. Its central character is the pauperised peasant Hari whose tragic death drives the last nail keeping all reform in the coffin in the feudal society. By the time he published this novel in 1936 after nearly three years of mental agony, he had broken loose from the strong-holds of Gandhism. The character reaches immortal heights as the symbol of a colonial peasant in whom the tenacious will for survival fights a losing battle with the utter helplessness that colonial and feudal society generates. Pitted pathetically against, the moneylender, the landlord, the trader, blood-sucking officials and exacting biradari, the peasant is persecuted on all fronts and dies a victim of the socio-economic system. His one passion in this life has been to possess a small plot of land and a cow of his own, "his small utopia" which is shattered by the brute forces of a class-ridden, caste-divided society, "the enemy inside". The exploited peasant receiving a loan of ten rupees actually receives only five, the rest having been appropriated by the master for gratification, writing the paper, the cost of the paper, the customary fee and what not. Disgusted the peasant blurts out :

"Better keep these five too,"
"Nonsense,"

"I mean it, Sir, One rupee as a gift to your younger wife. One for the older. One rupee to buy betel leaves for the elder wife. And one for the younger. That means four. The fifth rupee is for your funeral rites. (*Godan*.104) Exploited by his own people, Hari is reduced from a peasant to a farm labourer. His lone desire is a cow of his own. He gets it only to lose it as it has to be given away symbolically as the last expiating gift to a Brahmin. The irony of this high drama is a great watermark of Premchand's realistic art.

In Premchand, the urge to freedom comes alive, as in no other. The canvas of his novels and short stories is vividly painted with peasants fighting their life's battles for freedom. Karl Marx has written : 'I experience the invariability of the existence of whomsoever/I love.' The darlings of Premchand's imaginations leave a deep impress and we experience the inevitability of their existence. Thus the epic of his writings as much through his short stories as through his novels, stands out as a saga and bears witness to the three phases of the national struggle : the terrorism of the extremists, the Swadeshi movement of boycott and the satyagraha which finally paved the way for the transfer of power. A seminal writer of his times is bound to become a social historian of such a great movement. In the words of Dr. Chandrabali Singh, 'his work abounds in democratic realism pregnant with revolutionary consciousness'.

With a tradition as flimsy and frivolous as the Dastan cycles with fantasies of *Gul-e-Bakawali*, *Hatim Tai* and *Tilism-e-Hoshruba*, Urdu novel could not have bargained for more. Premchand invested it with a dignity by making it a repository of national fervour. Even in Krishan Chandar's *Shikast*' (1944) we miss the national sentiment as the novel is set in a locale of the Kashmir Valley through which Shyam and Binti emerge a pretty pigeon pair. In these short stories he brings out the brutality and bestiality of the ruling elite. The modern times have been most favourable for the short story; infact, Premchand's short stories reveal greater art than his novels, with rare touches of craftsmanship reminiscent of Chekhow and Maupassant. His novel, '*Bazar-e-Husn*' (1921-I, 1922-II) is closely modelled on Hardy's 'Tess' as the heroine Suman undergoes the travails in society to find shelter in an orphanage. '*Chaughan-e-Hasti*' (1927) presenting the conflict between village life and the encroachment of industry, sings praises of the charms of rusticity. As one who spearheaded the Progressive Writers' Movement, he firmly held : "We believe that the new literature of India must deal with the basic problems of our existence today, the problems of hunger and poverty, social backwardness and political subjugation."

The short story in Urdu, with all the imaginative energy, has more often broken through the dykes of customary form and style and has helped them to form new channels far different from "the marshy growth of romanticism which it had acquired from exotic efforts of Niaz Fatehpuri and Sajjad Hussain Yelderam," to quote Prof. N.S. Gorekar.[7] "*Angare*" (1932) is a collection of short stories contributed by Ahmed Ali, Dr. Rashid Jahan, Mahamoodul Zafar and Sajjad Zaheer, who was also its publisher (1932). Inconoclastic in their outlook, the stories unfold the standard of revolt against convention and respectability. The stories presented the decay and rot that had set in the feudal society and urge towards freedom. The new themes that writers dealt with were the uncharted realms of socialism, Freudism, sex hunger and homo-sexuality. The hollowness of the religious practices were targetted to be exposed obviously. Such tempestuous writings were proscribed. The Progressive Movement stepped in a big way as a reaction against puritanism or pharisaism of the middle class. These non-conventional issues fired the imagination of short story writers. In "*Ek Chadar Maili si*", Rajender Singh Bedi, depicts the predicament of a woman, who after the death of her husband, driven to destitution and penury is compelled by force of circumstances to contract a marriage with her younger brother-in-law whom she had treated as her son. Notwithstanding the pot-boilers, the age has artistic pieces too as in Rajender Singh Bedi's '*Garam Kot*'. It depicts the self-effacing nature of the needs so as to get a warm-coat for her husband. The pathos of the story is spontaneous and touching, reminiscent of O' Henry's "The Gift of Magi". Bedi's "*Gholami*" highlights the pangs of subjection and the urge towards freedom.

In the thirties of the present century. the resurgent nation caught in the upheaval gave rise to a young generation of students who responded to the national cause on an alien English soil in a responsible way. As care free students they came together in the cause of national struggle and dreamt fond dreams of serving their motherland. "*London Ki Ek Raat*" by Sajjad Zaheer is a small novel, rather a novelette, which presents the dreams and aspirations of these young men aflame with national fervour. Their one dream was to see India free. The novel adapts the technique of the stream of consciousness which was experimented by native writers in 1935 and thus it occupies a nodal point in the history of Urdu fiction.

1947 is remembered as the year when India redeemed its pledge from its age-old tryst with destiny; it proved the parting of ways in the art of governance. It also provided the watershed in the literature of the day. The dates that politically divide the annals of our history leave but a region of confluence in literature. Streams continue to mix and mingle with one another. It is futile and fruitless to think of the creative writers out-growing the common heritage of the undivided sub-continent close on the heels of partition. K.A. Abbas always held that "Literature, even religious literature, has never been devoid of a social sense." Rooted as it is in reality, it is at times poised to changing that reality. Ralph Fox in his work, "*The Novel and the people*" emphasises that the battle a writer wages against his times is a revolutionary one; he must seek to change the reality. Urdu fiction has stood the test of time, braving the ordeal with a resilience. Urdu language, having travelled from the camp to the court and thence to the people, has proved itself to be a potent medium. The motif was there; the movement was there; the medium was there; only the creative minds were needed for the miracles to be wrought.

The growth of national feeling means so much to the literature of the day. A nation in its making, breaking away from the Colonial Empire provides the rich soil for the various forms of literature to grow. While fiction of pre-Independent India has not much to offer with pronounced nationalistic leanings, the post-Independent era unfolded a reaction of greater dimension as seen in the works of Qurratul-ain-Haider, Abdullah Husaini and Khutaija Mastoor. In them we discern the effort to relive the past, that has been so historic and momentous. Reading their works one feels that Urdu fiction has a potential in the present and holds out a promise for the future. It is debatable whether the growth of nationalistic temper has hampered the progress of vernacular literature as feared by Sir Tej Bahadur Sapru.[8] However, it is undeniable that in those days of emerging national identity, Urdu figured prominently as 'the symbol of Hindu-Muslim *entente*. 'It is a pledge of their unity and of their mutual cordiality', in the words of the first historian of Urdu literature, Dr. Ram Babu Saksena.[9] Sir Tej Bahadur Sapru sets the seal with his dictum : 'Urdu is our heritage, common, sacred and indivisible.'

Writing about the Indian contribution to English literature, M.K. Naik[10] remarks: "It is true that much Indian writing in English of the pre-Independence days deserves to be branded as begotten by apery upon cultural colonialism, but it is often forgotten that it was this same period – which actually constituted the 'Renaissance in India' – that gave us The *Gitanjali* and *Savitri*, Gandhi's *Hindi Swaraj* and Nehru's *Autobiography*, and *Untouchable* and *Kanthapura*. "Urdu fiction of pre-Independent India does project but an oblique framework of references to the nation's efforts in the hour of its trial. The twilight preceding the dawn of freedom had lone stars like Premchand in the field of fiction. But the short story writers constituted a distinct constellation, of this form, Dr. Mohammad Sadiq[11] remarked : 'It is to prose what sonnet it to poetry.' His one advice to the host of writers whose vision was set on the West was : 'Our writers would do well to write less and read more. '

Among the outstanding Indian writers of Urdu fiction, Ismat Chughtai is a figure to be reckoned with. It is inevitable that a writer of her mettle should be exposed to host of influences like psychoanalysis, complexes, repressions based on Freud. But a writer of fiction is to be judged by the ability to tell the story and present convincing characters through dialougest and style all one's own. Her novels and stories portray the middle class female world with passions and frustration. As in '*Tedi-Lakir*' (Crooked Line), She makes a capital out of sex and her story "*Lihaf*" (the Quilt) with a theme of Lesbianism hides the sexual mystery a glimpse of which is seen when one corner of the quilt is lifted. Yet another major force in Urdu fiction has been Qurratual-ain-Hyder and "*Aag Ke Darya*" ("The River of Fire") (1984) is her major novel presenting a picture of national life on a massive scale covering nearly two thousand and five hundred years upto the dawn of freedom with a historical perspective of the Indian sub-continent. As the novel advances with the deepening crisis in the Indian ethos, one notices the shift of emphasis from plot to character. A novel conceived on epic scale presents Time as the central character. She is influenced by Bergson's concept of Time. Virginia Woolfe's technique of the stream of consciousness comes handy in her handling of this marathon narrative in a masterly fashion which has made Urdu fiction a realm of unlimited potential. The narrative pulsating with the flow of Indian ethos throws in its wake glittering personalities like Goutam Buddha, Harishankar Champa and a sure creative touch her originality is undeniable. This highly acclaimed novel from a trend setter in modern Urdu fiction has been translated into fifteen Indian languages.

The psychology of sex has a field day in the fiction of the ties. If Ismat Chugtai takes us to the privacy of the girls' hostels, Manto (Sadat Hassan) drags us to a brothel. D.H. Lawrence was the god of their idolatry, as seen clearly in his works like "*Khol Do*" and "*Thanda Gosht*". In "*Sia Hashive*" (Black Borders) he attempts mini stories (*Afsane*) on the theme of riots. His '*Naya Kanoon*' presented the common Indians expecting the new law in the wake of Independence. One would agree with the remark that Manto found greater humanity among the pimps and prostitues rather than among poets and priests. There is not much of the national slant in the sixty novels and nearly five hundred stories of Krishan Chander. Stories like '*Sima*' depict his defeated idealism. While Manto modernised the Urdu short story, Krishan Chander humanized it.

India's winning freedom is a historic achievement. It is customary to wax eloquent and write voluminously about it though the works produced during the period of national struggle preceding this achievement, present but a faint glimmer of the blood, sweat and tears that brought freedom. The interim that unleashed the blood bath after partition was a real phantasma. This naturally occasioned the literature of turmoil in native and foreign languages. K.A. Abbas's "*Inquilab*" in Urdu (1 Nov. 1975) and Khushwant Singh's '*Train to Pakistan*' (1985) in English–also whose Urdu version under the title "*Pakistani Express*" painted a lurid picture. Ratan emerges from the pages of Inquilab as a full and memorable character. Anwar is at 8 as the novel begins, grows sad and is saddened in the tumult of Hindu-Muslim tensions when the novel ends at 21. Hayatulla Ansari wrote his monumental historical novel in five volumes, "*Lahoo Ke Phool*" (The Flowers of Blood) published in 1968 against the background of the freedom movement and the partition of the country. It presents an intimate account of the times when its own people were making their history. The saga of India's struggle for freedom begins with the efforts of the subject race on its path to become a self-governed one with a distinct Gandhian slant. In fact, this novel begins where Premchand's '*Godan*' ends. Though coloured with the author's document covering the period from 1917 to the end of India's First Five Year Plan. The longest novel in Urdu is not the story of an individual : It is saga of nation through the harrowing experiences. The countless characters that surface in this flow of time are the absentee landlords, ready-witted Patwaris, evil-tongued Mahajans and tongue-tied Harijans, aged courtesans and young hired slaves, politicalised moulds and intriguing Sadhus, dare devil gallants and wayward women. One unmistakabily feels the heartbeat of a nation in its making.

Yet another novel of post-Independent India covering a vital segment of the freedom struggle from 1923 to 1947 is Abdullah Hussain's "*Udas Naslein*" (The Dejected Generations) (1963). Presenting a nation in its cultural decline when exploited by an alien rule, the novel is a classic example of how life with its variety of incidents and multiplicity of characters gets transformed into art. Partition provided the cutting edge; cutting into the conscience of an emerging nation. The aftermath of the great divide produced a literature of depression. The novel pictures artistically and faithfully the complicated conscience of forlorn generations. In the words of Shri K.K. Khullar : "The paradox of partition silenced budding writers dividing their destiny and direction; then lovers became leavers overnight, friends turned neutrals and erstwhile admirers avengers". Khutaija Mastoor brings the national struggle with the rumblings of international issues within the four walls of the courtyard of a Muslim family. Her '*Aangen*' (courtyard) enacts the historic drama of the national struggle and the courtyard rings resonantly with a rare vibrancy. Apart from the distant echoes, one clearly hears the true voice of freedom.

A survey of Urdu fiction, in other words, of Urdu novels and Urdu short stories vis-a-vis Freedom Movement is a medley of purple patches and bleak pastures. The popularity of a form like novel or short story largely depends upon the tastes of the reading public, though genius, as a rule, must create its own taste. The hurry of the modern life has favoured a much slender form of the short story and bestowed it with a rare splendour, thanks to the continental influences. Deviating from the story, discarding the plot and character, the short story has turned more inward and looked within touching more often a poetic note. The modern novel in Urdu suffers in comparison. It has come to outgrow the idealism and purposive configuration of Premchand and the Marxism of Krishan Chander. The wealth of innovation and the variety of experimentation that the West has to offer find but a faint glimmer in Urdu novel. Here and there one comes across a stray writer taking to the technique of the stream of consciousness. The life it presents gets approximated to a formula. The broad spectrum of modern life, the loneliness, the sense of self-estrangement, the crisis of identity, the modern man's death-wish and a host of undefined aspects of human personality have proved too much for the formula-ridden Urdu novel. The bright patches are Qurratul-ain-Hyder's '*Aag ka Darya*' and Khutaija Mastoors' *Aangen*' and Abdulla Hussain's '*Udas Naslein*' (1963) which have defied the formula and have successfully projected the saga of national struggle on an epic scale.

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VISWA GEETI

A Landmark in Telugu Poetry

M.Kulasekhara Rao*

When C. Narayana Reddy, now the Jnanpeeth award winner, was getting into the poetic world, he wrote *Viswa Geeti* or the Song of Universe. Hardly in his twenties, Reddy had come out with this semi metrical work, which s lyrical and reflects his vision of the world.

Progressive poets like Sri Sri and Dasaradhi have written a few semi metrical poems which were popular among poetry lovers. Puttaparthi Narayanacharya–a traditional poet-composed *Sivatandavam* which runs in Matra Chhandas or prosodial instant. Acharya used to euthral his audience by singing this musical poem. In all probability, Narayana Reddy was prompted by these creations, and came out with *Viswa Geeti* in the year 1954. Eminent poet Arudra lent an encouraging hand to the author in this creation.

The song in *Viswa Geeti* maybe taken as the voice of the poet and his vision. The ambition of the poet to wipe out racial evils and to strive for the welfare of universe appear the central idea of this lengthy poem, containing four hundred and odd lines. Reddy also aimed at social equality and progress of the world through this poem.

In an auspicious moment, a musical idea emerged in the depths of heart of the poet. This idea was to touch the heights of the sky. This song was as charming as the rainbow. It contained the seven musical notes and shining colours. One can see the blaze of clotted hair of Siva and listen to the noise of discorded bells. The moment, this verse arose the poet lost the darkness from his heart. The light spread everywhere. The time came within his bounds. The seven colours of the sun came down within his reach. The world began to narrate its miseries. The sky was crying. Clouds were in distress. Rocks were rocking the heads. Silence broke down. Awakening was everywhere. Joyous notes came out. His embodiment of imagination appeared before him and poetry began to spring in him. It was like the dark cloud (of message) created by Kalidasa

> "The Art of story telling of Nannaya,
> The sound of flow of
> Poetry of Srinatha,
> The musical tone of Poetic
> Bells of Potana."

Not only this, the sculptural beauty of Ellora, the artistic charm of Ajanta. the dancing glamour of Orugallu and Amaravathi entered into these musical forms to create a novelty. This song started like an atom but within no time expanded into sky, moved swiftly like fire and shone like bunch of rays to wipe out the darkness.

In this song, we come accross the scenes like life and death, strange nature of man. When there was sudden hurdle on the smile of kids, this song came to halt for a moment. When youth had to face the reality of life and experienced the fall, this song trembled with fear for some time. To get the proper yield, the labourers toil day and night. Still they do not get enough to live. For living, girls sell their beauty. They distribute their smiles to lust loving men. Even then they do not get proper living except insults. Experts in the art of drawing, sculpture, dance and music are the persons who give their life-gift to the worldly men and women. But they suffer with poverty.

With imperial ambition, political leaders of the world explode deadly nuclear bombs to the horror of the mankind. The peace loving pigeon runs to rescue itself. The capitalists, to satisfy their lust for money never hesitate to trouble the poor, and the poor are always under the shadow of distress. There scenes, these realities of society, effect this poem and the poetry immerses in sorrow for sometime and it gets into anger on some other.

The so-called religious leaders, who exploit mankind for their goals are the hurdles to the progress of the society. This song witnessing this situation gets into wrath to fire them and aim at their fall. Later a new world emerged. In this world everything was green. Everywhere there was novelty. In this world there was song of equality. This song made the artists, labourers, peasants, refugees, and other human beings to dance with joy. They danced towards the place of conquer. This charming scene made the poet's song to come with tears of joy. The poem felt that it secure the life's goal. This song, which was universal until now turned minute and every particle of it is absorbed permanently into the world of stunning beauty. Thus the poet's creation emerged as conquer and became fruitful with the welfare of the world. The following lines of this poem tell us the poet's progressive outlook of anti-war policy, equality of the society, love of peace etc.

> "The weapon, the nuclear balls
> Have lost their lives
> Victory for humanity
> Victory for peace of humanity.
> The art and labour
> could get the equal fruit.

There may be an influence of poet Sri Sri on Narayana Reddy for his progressive ideology.

Entire poem Viswa Geeti is composed based on musical notes of Trisra gati, Chaturasra gati and Khanda gati. When recited in the gatherings by the poet himself, it evokes a tremendous response from the audience. Needless to point out that the heart of the poet has come out in the form of this universal song with a goal of dedicating himself to the equality of mankind of this disturbed world.

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SF (Scientific Fabulation) and the Futures Studies

D. Gnanasambandan*

Our ancient world was unscientific in the modern sense but it was full of artistry and splendour as reflected in the literature of that time. Not all that the present has created would match with one like Shakespeare or Homer which the past had bequeathed to the present. But the literature of our time though bereft of past glamour and grandeur has been permeated with the spirit of scientific inquiry and wider knowledge of men and their minds. Science pervading all aspects of life has affected everything including imagination - our arts and literature. It has become reconcilable with literature in its general sense. Even fiction, hitherto fanciful, has come to be known as science fiction. Book shops are flooded with books of a wide ranging variety of themes which can be classified under the genre SF.

Science Fiction, as the name itself indicates, is a mixture of fiction and realism. It implies that fact is mixed with fancy. In the early phase of its development, the use of the term 'scientification' to refer to this genre made these works look distinct and isolated from the works of serious writers like Lawrence, Henry James and Virginia Wolfe who are still remembered as the greatest literary writers of our times. By 'scientification' it was meant, as Hugo Gernsback pointed out during the 30's, "the Jules Verne, H.G. Wells, Edgar Allan Poe type of story - a charming narrative intermingled with scientific fact and prophetic vision". These stories were published under various captions such as 'amazing stories', 'wonder stories', 'invention stories', 'astounding stories', 'adventure stories' etc. Science fiction is the term now in use to denote the enormous bulk of books that are increasingly published every year and the SF literary activity goes on uninterruptedly.

There are scholars steeped in traditional classical works who deny literary status to the SF. They find no value based, soul searching, psychic as well as socio problems in SF. They are perfectly right that the type does not deal with the prevailing issues concerning man's psyche. Again there is no touch of living life reality anywhere around these stories. They argue that real work of literature should offer ample scope for aesthetic as well as intuitive understanding of the finer shades of meaning of life. That which is related to living life alone is literature.

Those who refuse to admit SF in the 'golden realms' of letters fail to notice two vital factors concerning the genre. In their earnest appraisal of literary works, they, in a comparative perspective, attribute greatness to the works that deal with the present and mundane. They do not note down that SF is usually set in the background of some future time and totally ignores what is 'worldly' and 'humane'. This is done deliberately and systematically by all SF writers.

The basic underlying pattern of all SF works is its orientation towards future. Nowhere can the past be set in its fold. Diametrically opposed to the historical past, it sets itself against the present in a future background. It is but natural that our literary critics steeped in historicism cannot look beyond the present and consequently cannot appreciate works of distant future as we generally assume that our knowledge of the past is real and factual and hold that our knowledge of the future is subjective, imaginary and unrelated to our actual life.

Futuristic writings are not a prerogative of modern age only and there were writers in earlier ages who envisaged the future not only by a pure effort of the imagination but by a close observation of the prevailing changes. The concept of oncoming Golden Age and the ideal utopias were the projections of man's wistful fantasies answering to the longings for a good and prosperous life which have been moving mankind since the history began. Though the concept of such a future perfect in every respect of politics, law and living is not based on a scientific interpretation of the objective laws of development of humanity in society, the imagining of utopias set in an ideal future speaks of man's aspirations for the better tomorrows and earnest hopes for the best in the days to come.

When the purpose of ideal future depictions in utopias is to see mankind in an ideally bright limelight, writers who felt doubtful about their own people envis-

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aged future societies in which men are not men or humanistic enough resulting in counter utopias or dysutopian pictures of terrible days that are ahead. Ideal utopian writings have had excess of optimism; the pessimistic pictures, inspite of luxurious and advanced way of living due to the development of science act counter to the optimism because they are deeply convinced that happy visions are not true or are unreal. These writers feel that it is better to warn people for what next is to come. Again all such future societies conceived so far had never been realised. Both the positive and negative potentialities suggested in them had never seen the light of the day. In trying to realise his dreams man failed - constantly and steadily - in each and every decade. The utopians gave hopes only and the vanity of such hopes was proved beyond doubt. The counter concepts showed the failure of the ideal dreams about the future and in turn pointed out nightmares, not dreams and warnings, not portraits of ideal world. The SF orientation towards future is not based on ideal vision as well as altogether pessimistic pictures of future. Based on genuine forecasting which would naturally shatter the ideal dreams of the utopias, the genre tends to present the possibilities of scientific development. With an acute knowledge of science and society, SF writers offer forecasts of future societies extrapolating the trends as seen in the realm of science and technology. Though offered in the form of fiction, the fictious presentation is scientific to a large extent.

An important aspect of SF writing is the writers of the genre, with a few exceptions, are scientists either by profession or by study. For instance some of the greatest SF writers like Arthur Clarke, Isaac Asimov, Robert Heinlein, John Taine, Edward Smith, Leo Szilard, Otto Frisch, Fred Hoyle, Chad Oliver, Stanislaw Lem and Norbert Weiner are scientists and engineers.

It is true that SF stories are of fantasy and not true of the present day knowledge. But they are rendered possible and the readers recognise the scientific possibilities of its being made possible at some future date. As early as in the SF writings of the early century, the submarine, the airship, the airplane and the rocket weapon had been predicted. Though they depict imaginary voyages, they have foreseen voyages around the moon, telecommunication, power locomotion and so on. Some of the predictions, however improbable and unbelievable, have assumed different forms in our day to day life. Television was prophesised in many SF tales going back to the dawn of the century and taken for granted in the writings of the 20's and 30's of our century. There are many stories which depict airplanes of the future and about commercial aviation, private fliers, aerial bombs, sky pirates, war in the air and planes as big as a city. Many tales make reference to videophones which are likely to be in vogue by the end of the century.

"What immediately strikes one" says a writer on H.G. Wells, is Wells' foresight in describing inventions and developments which were then either unknown or in an embryonic form. Television, broadcasting, aeroplanes, phonetic spelling, urban walkways all these are described in convincing detail. It is remarkable that the books were written even before the Wright brothers made their first flight in a heavier than air machine. The concept of enormously hypertrophied cities and an immense growth of urbanisation has also proved to be more accurately than Wells thought at that time." He also correctly foretold an era of chemical warfare, atomic weaponry and world wars.

'Brave New World' and 'Nineteen eighty four', generally considered as SF try to depict or at least warn about the direction of social life. After 25 years Huxley wrote an essay 'Brave New World Revisited' in which he observed that his prophesies were being realized sooner than he had expected. Among SF writers, Arthur Clarke has the unique position in the world of science. In 1945, he wrote the technical paper which was the forerunner of communication satellite. This was some 12 years before the first sputnik circled the globe. It was reported that some 174 predictions on space communication came true during his own lifetime.

Among the predictions made by the SF writers in general, we have the space flight and rockets, robots which have superbrains and space settlement. That we are leaping into the space in future is undoubtedly a fact and this feature is noted in the entire world of SF. Writers like Van Vogt and Arthur Clarke have made space their field and they portray the race of Space born beings. Van Vogt portrays a whole race of future supermen who are called Slans. But it was left to Isaac Asimov to gather the whole together and say that the future race will establish an empire and the empire will have its day. He depicted the building of an empire of human colonized world.

The story of Asimov's Foundation novels is the prediction of the imminent fall of the Empire, the Galactic Empire. This, the leaders of the foundation, an institute of monastic division dedicated to tracing the course of the fall, seek out and assist those factors which will rapidly bring the Dark Age to an end and restore civilization through the Galaxy. The Galactic civilization is the turning point of this universe building. It implies going to the Mars and other planets. it implies colonizing in the Space where colonizing is made possible. it implies the multiplicity of the world and the intellectual kinship of the world. The future Galactic Age refers to the civilization of intelligent beings in contact with each other, trading with each other, bounded together in some sort of Federation of the sorts to assist, to enlighten and to defend. Though Edmund Hamilton gave only the idea, not the details of the Galactic future, the idea captured the imagination of Asimov and others who had gone on elaborating the empire.

The development of scientific knowledge has yielded another result - remarkably brilliant - in the discovery of a new science in future known as psycho history. This new science has been defined as "that branch of maths which deals with the reaction of human conglomerates to fixed social and economic stimuli". To predict with a high degree of accuracy based upon the knowledge of all the variables, just what would happen and how and when it would happen is what this science will show. This study based upon maths utilising all the human data - millions and millions of variables - will become an exact science by the 12 thousandth year of the Galactic era.

Are we to assume that Asimov's SF concept of psycho history - the exact science of scanning future - has originated in our time in the universities the world over? Is the Futures Studies invariably known as Futurology, Futuribles, Prognosis, etc., the starting point of the new area of knowledge? In quite a few Indian universities, Futurology has been introduced as an academic discipline. The Department of Science and Technology acts as the nodal Ministry of Futurology and the UGC has allocated a considerable grant to the starting of the subject as an academic course in select institutions.

The term 'Futurology' ending with - logy suggests that the subject is like other science subjects as if future is something tangible, exact and liable for experiment. Hence some prefer to call the study in terms that make it appear less scientific but more viable a field for investigation. Similarly the methods incorporated in the syllabi of a few institutions consist of empirical sciences as well as social sciences.

It can be seen that in the areas of social as well as technological forecasting, SF will be found extremely useful. As the French prefer to call the study 'Futuribles' future ahead to us cannot be construed in any study as one but many. The questions SF writers ask are not about one social world but about countless possible worlds. They represent each in his own way the visions of a future scientific society and the way in which the world has gone ahead. They tell the living generation that such speculation and such visions are not mere illusion to pass with the change of light but they affect the future. They offer a number of conceptions of how the future is going to shape up. Infact some SF writers work steadfastly to depict near futures that are consistently in tune with the scientific development and the consequent social problems involved.

Further for trend extrapolation SF serves as a useful guide. Asimov while speaking of his works observed that they are essentially thought experiments conducted by him extrapolating the various trends of scientific and technological progress. Though we cannot say that the predictions made in the stories meet the strict criteria of science, it cannot be denied that they do discern some aspects of the future and give a general indication of the probabilities of the future. Again they are not treated for their story value but are considered as a "system of ideas" and as they speculate in "futurities and in probabilities, it is to be judged by the immense variety as the potential of humanity is as varied and multifold as the stars in the sky."

Imagination is essential in the task of scenariobuilding - an important method used in the study of futures. In fact the future as created by man is nothing but imaginary. It is a symbolic construction used to lead us, to accept or to doubt and reject some course of action. These symbolic constructions we use are fictions. It can be done only with the help of imagination because means and ends relationships can only be tested first in imagination and next in action. The need for imagining arises as doubt and ambiguity are realms of change. They are like bridges which we use to cross from the old to the new if it does not help us solve our problems in acting together. If the scientific method is to proceed step by step by the laws of strict causation, the SF writer's imagination leaps ahead to consequences that might follow.

Even though literary critics are reluctant to attribute literary status to the SF fables, their direct relatedness to society and the people of our time cannot be denied. Sociologists agree that these stories serve a fine basis for making their indepth study in sociology. They are particularly well suited for the development of sociological consciousness or sociological imagination. Societies as described in SF serve as models in generating serious inquiry into the social reality. The SF writer describes the possible and may even have hit upon the probable but he does not prescribe the inevitable. Who can say that these stories describe the improbable?

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Leadership Behavior and Effectiveness

D.A. Ghanchi*

The field of managerial leadership live so many other disciplines in the contemporary world of scholarship and research is in a constant state of flux with numerous controversies about conceptual and methodological issues. Dr. Yukl, a renowned scholar and researcher in the field of behavioral sciences has, in his book [*Leadership in Organisations*, (Prentice-Hall, 1981 Pp. xii + 340)] diligently surveyed the existing theory and research on leadership in organisations of a large variety and has distilled a wide range of findings into a useful and understandable format. He has particularly focussed on the effectiveness of leadership on the part of a manager or an administrator. For this he has made a penetrating review of literature on research spanning four decades. Consequently the book has won a world-wide acclaim and it has acquired a unique place among texts on leadership, management and supervision.

The contents of the book reflect a dual concern for theory and practice. It is neither a purely theoretical treatise nor a manual of techniques for practitioners in the exciting field of leadership. Theories have been explained and evaluated dispassionately and recommendations and guidelines have been offered for improving the quality of leadership. However, there is no doctrinnaire approach in the treatment of the subject. The author has not transgressed professional modesty when he says that "the book is appropriate for use as the primary text in an undergraduate or graduate course on leadership. It can be used in combination with other texts for courses in management, supervision, group dynamics, administration and organisational behaviour.... It is ideal for inclusion in required reading lists for comprehensive graduate student examinations in management, industrial psychology, social psychology, sociology, public administration and educational administration.

The basic approach to the treatment of the subject in this book is evolutionary in as much as it begins with a graphic elucidation of the concept of leadership, examines various theories through an over-view of major research approaches, analyses research studies pertaining to crucial dimensions of leadership, particularly its effectiveness, and culminates in the evolution of an integrated and ecelectic perception of the phenomenon of leadership leaving the reader enchanted with the romance of an ever-eluding but exciting vision of the prospects of being an effective leader.

The book runs into ten compact chapters that encompass within their grasp the sprawling psycho-philosophical territory of the modern concept of leadership. Each chapter is followed by a succinct summary and a list of review and discussion questions. Tables and figures have been appropriately dovetailed into the body of the narration making the presentation articulate and appealing. The bibliography and indices provide a valuable aid for comprehension and further study. With all this technical equipment the book succeeds in showing that we know more than is commonly believed, although much less than we need to know about leadership in organisations.

Chapter-I lists seven definitions of leadership and introduces the reader to the area that is both complex and confusing. The definitions differ from each other in many respects including important differences in who exerts influence, the manner in which influence is exerted, and the purpose of influence attempts, for the only common feature among various definitions is that leadership is a group phenomenon involving the interaction between the leader and the followers.

Most definitions of leadership reflect the assumption that it involves an influence process whereby intentional influence is exerted by the leader over the followers. He, therefore, has wisely stated that it is neither feasible nor desirable at this point in the development of the discipline to resolve the controversy over the appropriate definition of leadership. It is better to use the various conceptions of leadership as a source of different perspectives on a complex, multi-faceted phenomenon. In research, the operational definition of leadership will depend to a great extent on the purpose of the researcher. [*Campbell*, 1977; *Karmel*, 1978]. The purpose may be to identify leaders, to train them, to discover what they do, to determine how they are selected or to compare effective or ineffective leaders".

The amorphous concept of leadership, however, has been subjected to research which can be classified into four different approaches, namely, the power-influence approach, the trait approach, the behaviour approach and the situational approach. Of these, the first one, i.e. the power-influence approach attempts to explain leader effectiveness in terms of the source and quantum of power available to leaders and the manner in which they use their power over their followers. The trait-approach

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emphasizes the personal qualities of leaders, like their energy, intuition, foresight and persuasive skill. The behaviour approach emphasizes what the leaders do, and what activities they engage themselves in. The situational approach emphasizes the importance of situational factors such as the nature of the task performed by a group, the leader's authority and discretion to act, the role expectation imposed by superiors, peers and subordinates, and the nature of the external environment.

At the very outset the author has pointed out that these four approaches to research have not necessarily led to the emergence of an integrated concept of leadership. Research endeavours in the field of leadership have been highly segmented and narrowly focussed. He has, therefore, tried to fill in this lacuna by examining points of correspondence between the findings of these different research approaches, summarising what has been learned about leader effectiveness, reviewing ways of applying this knowledge and making recommendations for future research.

In Chapter-2 the author has examined research studies on the reciprocal nature of the influence processes in leadership and the various sources of influence for leaders and followers. He has identified eleven different forms of influence. They are : (1) legitimate request (2) instrumental compliance, (3) coercion, (4) rational persuasion, (5) rational faith, (6) inspirational appeal, (7) indoctrination, (8) information distortion, (9) situational engineering, (10) personal identification, and (11) decision identification. A number of research studies pertaining to these forms of influence have been referred to while explaining their nature and impact on the relationship between the leader and the followers. Each form requires a specific ability in the leader as well as the followers. For example, personal identification is possible only if the leader has qualities of attentiveness, charisma and irresistible appeal, whereas the followers should have a spontaneous tendency to admire the leader, to be ready to do whatever he wants them to do even at the cost of their personal convenience, interest or preferences.

It is ultimately the interaction between the leader and the followers that determines the success or the failure of a leader at a point of time. Yukl has reviewed a number of social exchange theories, and has found that different forms of influence brought upon by a leader's personal power or by his position power have determined the effectiveness of his leadership. In particular, he has referred to one version of Social Exchange Theory called Vertical Dyad Linkage Theory whose basic premise is that leaders usually establish a special relationship with a small number of trusted subordinates [the in-group] who function as assistants or advisors [and not as sychophants]. The basis for establishing a deeper exchange relationship with the in-group subordinates is the leader's control over outcomes that are desirable to most subordinates. These include assignment to interesting and desirable tasks delegation of greater responsibility and authority, access to "inside information", participation in making some of the leader's decisions, allocation of tangible awards provision of special benefits, facilitation of a subordinate's career and provision of personal support and approval.

It is through a very judicious and imaginative wielding of power and authority that a person in a group may emerge as a leader. His success as a leader, however, will depend on the group he leads, the goals the group has before it vis-a-vis the goals of the organisation, and its identification with and loyalty to the leader.

Chapter-3 surveys twelve research studies on the use of power by leaders over their subordinates and the consequent influence on their behaviour as followers. Five types of power have been identified for the purpose. They are :)1) the reward power, (2) the coercive power, (3) the legitimate power, (4) the expert power and (5) the referent power.

The reward power indicates that the subordinate does something to get a reward controlled by the leader. The legitimate power suggests that the subordinate does an act to avoid punishment by the leader. The legitimate power implies that the subordinate does something because the leader has the right over him to get a thing done and the subordinate has an obligation to do that thing. The expert power issues from the leader's special knowledge and expertise which the subordinate needs. Lastly, the referent power suggests the subordinate's yearning to win the leader's approval and, if possible, to be like him.

It is found that there are two fundamentally different approaches to the use of power. One approach seeks to dominate and subjugate the subordinates by keeping them weak and dependent upon the leader. The other approach seeks to build the skills and self-confidence of the subordinates. The former makes the subordinates feel self-diminished before the leader, whereas the latter makes them feel great and heightened !

A motivating leader exercises his power and wields his authority cautiously and compassionately so as to maximise the internalised motivation and self-control among his subordinates, the leader tries deliberately to build the subordinates commitment to the organisation and its ideals rather than to himself which a manipulating leader does. Authority is delegated to a considerable extent, information is shared openly and universally, and participation in decision-making is not only welcomed but also encouraged. The leader raises the consciousess of his followers by appealing to higher ideals and moral values rather than by meeting baser motives like fear, prejudice, jealousy, hatred and greed.

In the history of leadership in human civilization there have been countless instances of the misuse of power, particularly personal power by charismatic leaders who turned into autocratic agents of a mad pursuit for self-perpetuating power. Yukl therefore warns that the potential for corruption exists in all that a leader is empowered to do by law or by popular mandate, so mechanism should be provided to promote reciprocal influence and discourage arbitrary action by the leader. Rules and policies should be framed to regulate the exercise of position power and limit the use of coercion. Grievance and appeals procedures should be enacted and independent review boards should be established to protect the subordinates against the misuse of power by the leader. By-laws, charter provisions and official policies should be drafted to require a leader to consult his subordinates and obtain their approval on specific decisions, leaders can facilitate reciprocal influence by inviting subordinates to participate in making decisions that affect them.

Various researches reviewed by Yukl point to the enormous potential of power as both a constructive and destructive instrument in building up an organisation as a vehicle of human welfare.

Chapter-4 reviews research on the Trait approach to the concept of leadership. Trait research was facilitated by the rapid development of psychological testing during the period from 1920 to 1950. The kinds of traits studied most frequently in the early leadership research included physical characteristics like height, appearance, energy level etc., personality characteristics like self-esteem dominance, emotional stability etc., and ability which included general intelligence, social insight etc. R M Stogdill examined the results of 124 trait studies from 1904 to 1948 and identified traits like intelligence, alertness to the needs of others, understanding of the task, initiative and persistence in dealing with problems, self-confidence, and desire to accept responsibility and occupy a position of dominance and control which correlated with effectiveness of leaders in specific situations.

Again in his 1974 book Stogdill reviewed 163 trait studies conducted during 1949 to 1970. He noted that a greater variety of measurement procedures was used in the said studies. It included projective tests like the Thematic Apperception Test and the Miner Sentence Completion Scale, situational tests like In Basket, Leadership Group Discussion, etc., and forced-choice tests like Ghiselli's Self-Description Inventory and Gordon's Survey of Interpersonal Values. He suggested a trait profile as characteristic of a successful leader. According to that profile a leader is charaterised by a strong drive for responsibility and task completion, vigour and persistence in pursuit of goals, venturesomeness and originality in problem solving, drive to exercise initiative in social situations, self confidence and a sense of personal identity, willingness to accept the consequences of decision and action, readiness to absorb inter-personal stress, willingness to tolerate frustration and delay, ability to influence other person's behaviour and capacity to structure social interaction systems to the purpose at hand.

However, Stogdill makes it clear that recognition of the relevance of leader traits is not a return to the original trait approach. The old assumption that "leaders are born" has been discredited completely, and the premise that certain leader traits are absolutely necessary for effective leadership has never been substantiated in several decades of trait research. Now there is a more balanced viewpoint about traits. It is now recognised that certain traits increase the likelihood that a leader will be effective, but they do not guarantee effectiveness, and the relative importance of different traits is dependent on the nature of leadership situation.

An interesting longitudinal research study undertaken at the American Telephone & Telegraph Company by Bray, Compbell and Grant (1974) has found significant correlations between certain individual traits and managerial success. The sixteen traits studied are : (1) ural communication, (2) human relations skill, (3) need for advancement, (4) resistance to stress, (5) tolerance of uncertainty, (6) organising and planning skill, (7) energy, (8) creativity, (9) range of interests, (10) inner work, standards, (11) behavioural flexibility, (12) need for security, (13) ability to delay gratification, (14) decision-making, (15) primacy to work, and (16) goal flexibility.

Another important discovery in the said research was the effect of the job situation on the relevance of individual traits for managerial success. The prediction of success based on a candidates assessed traits was more accurate if the person had a job situation favourable to individual development, A favourable situation existed with a person's boss provided encouragement for him to develop management skills, gave him challenging assignments with increased supervisory responsibility and served as a role model by setting an example of how a successful achievement-oriented manager should act.

M D Dunnette (1971) reviewed four research studies and found that there was considerable agreement about positive relationship between six specific traits and a manager's success. The traits are : (1) over-all activity level, (2) organising and planning skills, (3) inter-personal competence, (4) cognitive competence, (5) work-oriented motivation, and (6) personal control of feelings and resistance to stress.

V.J. Bent's study (1967) describes successful executives thus: "It would seem that powerful competitive drive for a position of eminence and authority provides a strong impetus for these men; the need to be recognised as men of influence and status and ambition to govern, and the desire to excel appears to be of primary importance in enabling these men to utilise their talents fully and appropriately. They are fully confident of their abilities to cope with and control unfamiliar situations, have the facility to deal with problems impersonally, and possess the physical vitality to maintain a steadily productive work pace while they prefer a dominant position within a group, they are also cooperative team workers who willingly listen to the ideas and suggestions of others. Their strong power motive is tampered somewhat by consideration for other people so that they are not likely to run roughshod over others in their efforts to gain success and renown."

Yukl rightly concludes : "Findings from research on leader traits and skills have the greatest potential application to the selection and promotion of managers and administrators in large organisations. Intensive measurement procedures such as those used in most assessment centres provide moderately accurate information about managerial motivation, personality traits, inter personal skills and cognitive skills. When analysed together with information about the prior experience and performance of candidates, these assessments can be used to make reasonably good predictions about the likely success in a higher managerial position. The accuracy of prediction is increased when the skills, traits and knowledge, especially relevant for a position, are determined in advance.

The third approach to the study of leadership is related to the actual behaviour of the leader in specific situations. The various methods of studying leadership behaviour include the diary, continuous observation, activity sampling, retrospective self-reports, questionnaires, and critical incidents. Through these methods activities of a leader playing different roles are studied. H Mintzberg (1973) has enumerated as many as ten managerial roles. They are : (1) the figurehead role, (2) the leader role, (3) the liason role, (4) the monitor role, (5) the disseminator role, (6) the spokesman role, (7) the entrepreneur role, (8) the disturbance handler role, (9) the resource allocator role, and (10) the negotiator role.

The Ohio State Leadership Studies have identified twelve activities that successful leaders do to play specific roles. For example, they regard the comfort, well-being, status and contribution of their followers. They also clearly define their own role and let their followers know what is expected of them. They speak and act as the representatives of the group. They reconcile conflicting organisational demands and reduce disorder to a system. They also tolerate uncertainty and postponement without anxiety or being upset. They use persuasion and argument effectively and exhibit strong convictions. They allow their follower's scope for initiative, decision and action. They actively exercise leadership role rather than surrender leadership to others. They exhibit foresight and ability to predict outcomes accurately.

The Michigan Leadership Studies have focussed on the relationship among leader behaviour, group processes and measures of group performance. It was found that effective leaders do not spend their time and effort doing the same kind of work as their subordinates do. Instead they engage themselves in activities of planning, scheduling the work, and coordinating subordinate activities. They are more considerate, supportive and helpful with subordinates.

Yukl through a programme of research (1979) has identified nineteen meaningful and measurable categories of leadership behaviour. They are : (1) performance emphasis, (2) consideration, (3) inspiration, (4) praise, (5) reward, (6) decision participation, (7) autonomy and delegation, (8) role clarification, (9) goal setting, (10) training & coaching, (11) information dissemination, (12) problem solving, (13) planning, (14) coordinating, (15) work facilitation, (16) representation, (17) interaction facilitation, (18) conflict-management, and (19) criticising and disciplining.

This taxonomy provides a means of reconciling the discrepancies among most of the earlier studies on leadership behaviour categories. The advantage of this taxonomy is that it has a large number of more specific behaviour categories than earlier ones, and it includes most behaviours found to be important in leadership research.

Chapter-6 reviews contemporary situational theories of leadership effectiveness. They are : (1) Fielder's contingency model of leadership, (2) Hersey and Blanchard's situational leadership theory, (3) House's path-goal theory of leadership, (4) Yukl's multiple linkage model of leader effectiveness, and (5) Kerr and Jermier's model of leadership.

Fielder has attempted to predict leader effectiveness using a measure of leader attitudes called the L.P.C. score. His model specifies the kind of situation in which a leader with a high L.P.C. score will be more effective than a leader with a low L.P.C. score and vice versa. The situation will be favourable or otherwise depending upon three factors, viz., leader-member relations, position power and task structure. Among these, leader-member relations are the most-important determinant of situational control.

Hersey and Blanchard's situational leadership theory examines how the effectiveness of task-oriented and relationship-oriented leader behaviour is contingent upon the maturity of the followers. The theory emphasises flexible, adaptive leadership that is responsive to changing conditions.

The Path-Goal theory examines the leader's influence on his followers satisfaction and motivation. It also shows how certain aspects of a situation like the mature of a task or the environment of work or the characteristics of followers determine the potential for increasing the satisfaction of the followers. With this theory it is possible to determine the type of leader behaviour that would ensure maximum satisfaction and motivational behaviour for the followers.

Yukl's multiple linkage model deals with the moderating influence of situational variables on the relationship between leader behaviour and leader effectiveness. According to this theory a situation determines in the short-run what the leader needs to do in order to maximise group performance. In the long run the leader can reduce constraints and can increase opportunities for improving things by altering relevant aspects of the situation through political activity.

Kerr and Jermier's model identifies aspects of the situation that make leadership behaviour redundant or irrelevant. Various characteristics of the followers, the task and the organisation serve as substitutes or neutralizers for leadership behaviour.

Chapter-7 reviews research on situtational determinants of leader behaviour. The situational determinants include the leader's level in the authority hierarchy, function of the leader's organisation, task characteristics. technology, size of the organisation, lateral interdependence crisis conditions and subordinate competence. All those confront the leader with constraints in performing his various roles. A number of comparative field studies, longitudinal studies and laboratory experiments have been undertaken to identify situational determinants that make demands on the leader's behaviour. Yukl has suggested tentative guidelines of 19 specific behaviours for the leader.

Chapters 8 and 9 pertain to research on decision making. The process of participation in decision making and delegation of authority is discussed in chapter 8. Four chief processes described are autocratic decision, consolation, joint decision and decision through delegation of authority and responsibility. It is found that participation and delegation are very desirable strategies to make decisions broad-based and widely acceptable by coworkers.

Chapter-9 discusses the role of leaders in decision making groups. The extent to which the members of a group contribute information and ideas, the clarity of communication, the accuracy of predictions and judgements, the extent to which the discussion proceeds through a logical and orderly sequence, and the manner in which disagreement is resolved affect the quality of the group decision. The group processes are enfluenced by the size and composition of the group, members cohesiveness, status differentials, member's knowledge and personality, the immediate environment and the leader's skill and behaviour.

A good leader should perform different roles to make the group an effective agency to realise specific goals. He is supposed to perform such roles as that of a gatekeeper, a harmonizer, a supporter, a standard setter and a process analyzer while leading the group. He should be adept at using different-procedures to increase generation of ideas by the group like brainstorming, and synectics technique. He should beware of risks inherent in group techniques, too. There may be hasty decisions, incomplete participation, polarisation, and superficial action planning.

Chapter-10 endeavours to arrive at convergence of view points discussed in the earlier chapters. The author warns that the concept of leadership has not yet been finally defined despite four decades of persistent inquiry and research. He says "Ironically probably more has been written and less known about leadership than about any other topic in the behavioural sciences". He therefore advocates that whatever intellectual yield the four theoretical approaches, countless research studies and practical field experience of leaders in organisations the world over have provided, should be subjected to further research with a view to learning more about this exciting human behaviour. He also suggests that efforts should be pooled and resources mobilised to pursue the search in an integrated way. He recommends a three-fold integrated strategy to improve the quality of leadership. It consists of selection and training of leaders, and social engineering to provide situations to help leaders succeed. He says, " At present the best way to proceed is probably to use a variety of research designs, and analytical methods. Experimental field studies are badly needed, and there is also a place for carefully designed experiments in a laboratory setting."

India has a lot to gain by pursuing the strategies delineated in this wonderful treatise on leadership. Let's remember :

Gavhar ko karti hai Ashkabari Payda,
Tamkeen ko Mauje Bekarari Payda,
Sau bar chaman mein tadapti hai Bade Naseem
To Hoti hai kali pe ek dahari Payda

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Prativa Ray's 'Pruthak Ishwar'
A Landmark in Modern Oriya Literature

Bidyut Lata Ray*

Novelist Dr. (Mrs.) Prativa Ray is well known in modern Oriya literature. Her novel '*Shilapadmà*' fetched Orissa Sahitya Academy award in the year 1987. She received Sarala award in the year 1990 for her novel '*Yajnaseni*'. Being translated into Hindi, this novel is widely discussed and admired in all-India level. Panjab Government has published her novel '*Shilapadma*' in Punjabi under their programme of National Integration. It is a matter of pride for Oriya literature.

Some critics opine that the Oriya short stories of Dr. Ray are more powerful than her novels. Many short stories of her have been translated and published in eight other Indian languages. Her story '*Chandrabhaga and Chandrakala*' being translated into English, has been included in the Penguin short-story series. Her stories are specially appreciated in Hindi literature because of their social and humanitarian character. Her stories are also transmitted by Doordarshan Kendras and Akashvani Centres.

Pruthak Ishwar (Nalanda Publishers, Cuttack, 1991) is the eleventh short-story book of the author published in January 1991. The book is named after the story '*Pruthak Ishwar*' placed in the beginning of it. Besides this, there are eighteen other stories in the book. But the first story '*Pruthak Ishwar*' is very heart rending and thrilling. In this story the author has tried to discover the real truth of life. As she indicates, the story has been designed on the very scene of a beggar, witnessed by her at Calcutta Platform. She has differentiated between the traditions of India and the foreign countries. The foreigners doubt the existence of Ishwar (God) while we Indians believe in it. Now-a-days the foreigners are searching for God and for that they are taking the help of Indian monks and pandits.

According to the story, the foreigners came across Gurus (teachers) to know, "Where is God? What is God? What is his colour? What size he has?" and so on. They asked the Gurus, "Have you seen God? Have you touched? If not, how do you believe that the God exists ?"

Instead of answering the questions, Guru asked - "What is light?" Foreigner replied - "An energy". Thereafter the story goes like this : Guru - "Have you seen light?" Foreigner - "No, light is not seen. But it illuminates other things to be visible". The conversation went on. Finally the Guru made the foreigner understand that God is one energy like light. He himself is not visible but illuminates the whole universe. Ishwar (God) is omnipresent. He has no shape. He can only enter through transparent hearts. He is beyond time and space. As the creation is dark without light, similarly consciousness is full of attraction without the feeling of the God. Consequently the God is one feeling. He is, of course, very finely visible beyond thought and consciousness. He is the radiation, the salvation, the inspiration and the one which is felt.

Prativa Ray has also pointed out that the foreigners have a strong faith in the fact that God appears only if there is sincerity. There is also severe fight among different people (godmen) to prove oneself as the God. According to the analysis of the Gurus, the foreigners are trying to locate the God (Ishwar) by comparing His qualities with those of the people proclaimed to be the God himself.

According to the description of the story, the foreigners have already travelled throughout India in search of God, but no where they could spot the God. Lastly they come across a beggar lying flat on the platform. They had seen this creature walking throughout the day. The condition of this beggar is so miserable that the foreigners could not distinguish whether he is young or old. They are now comparing the position of the beggar with the definition of the God. The story goes like this - "The God (Parameshwar) is omnipresent. The two foreigners have seen such a creature everywhere in India ....".

From the conversation with the beggar, the foreigners came to arrive at the facts that the God is not born. He has no parents, no offsprings. He has no caste, no religion. He has no abode, but He resides everywhere.

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The God does not take food, on the other hand, he eats all. They found that the beggar lying on the platform took the food left by others after eating. They became astonished at this. Another gentleman told, "Nothing will happen. Will they die? Diseases will never touch them. Had there been diseases, how would have they survived? How would have they spread their family? How would have they spread everywhere?" This means that the God is not perishable one. He is not affected by the Sun, the rain, the fire or the virus. The foreigners danced at once with joy as if they had discovered something. They took the snap of the beggar, the Ishwar they discovered on the platform. The writer mentions that the foreigners can't mark any difference between the beggar and the God. One who is not born in India, the land of the Gods, how can he identify the God !

In the story itself, the author has also pointed out how Indians are crazy after the goods imported from foreign countries. In the minds of Indians, the love of foreign goods and countries are becoming stronger than the love of their own motherland. Though India became free from British-rule on the very basis of discarding foreign goods, it is now observed that the independent Indians are being addicted to the use of foreign goods. It has been converted to a 'status symbol'. It seems that the author has very much felt this degradation of the Indian mind.

The story '*Pruthak Ishwar*' is a new step in Oriya literature. It deals with the present society and the condition of the Indian people. The writer has observed all the qualities of the God in a beggar. The simile is very much pertinent and the presentation is lucid. The other stories of the book '*Pruthak Ishwar*' are also quite enjoyable and worth reading. One can only experience the thrill if one goes through them.

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Periodicals in Library and Information Science in India

A Review of Their Growth and Development

J.K. Anand*

Learned periodicals constitute the most important media of communication of new ideas in any subject. They are mainly intended to be the vehicles for publication of papers on the theory and practice of a discipline and are thus supposed to report the significant research findings in a particular field. As such, they have been termed by scholars as the most important medium in the overall dissemination of knowledge. In the present paper an attempt has been made to briefly review the growth and development of periodicals in Library and Information Science in India.

A large number of periodicals are being published in the field of Library and Information Science (L & I S) in India. They have a history of about 80 years beginning from 1912. It may be significant to know that the country ranks third, after USA and UK, among the L&IS periodicals producing countries in the world. The periodicals are published/sponsored by professional associations, institutions, L & I S departments in universities, individuals and endowments/trusts etc.

In order to narrate the growth and development of Indian L&IS periodical literature in a systematic manner, it would be more appropriate to describe at first the periodicals which came into existence at different times and which have since ceased publication. After this the details regarding the currently published periodicals will be discussed. In both these cases, the growth and development of the periodicals will be described in the sequence of the years of their origin. P.N. Kaula, a prominent figure in Indian Librarianship, has described the growth and development of Indian L&IS periodicals in his own unique style. He says, "Some (of the periodicals) were born and soon became victim of infantile mortality; some grew out of childhood but had premature death; some lingered on till they disappeared; some have continued in bad health; and some have progressed in good health and survived against heavy odds."

Periodicals no longer in existence

The honour of being the first library periodical in India belongs to *Library Miscellany*, started in 1912 by the Department of Libraries, Baroda, under the inspiration of Sayaji Rao Gaekwad, the then ruler of Baroda State, who is believed to be the founder of library movement in the country. It may be significant to know that the periodical was a multi-lingual publication consisting of three parts in English, Marathi and Gujarati languages respectively. Unfortunately the *Library Miscellany*, the doyen among Indian library periodicals, ceased publication in 1920.

The *Indian Library Journal*, a quarterly periodical, was started from Vijaywada in 1924. It was the official organ of the *All India Public Library Association*. It ceased publication in 1934. The *Modern Librarian* : A Monthly Journal of All India Library Service started publication in 1930 from Lahore. It was printed and published by Ratan Chand Malhotra, General Secretary of the Punjab Library Association. Later on Sant Ram Bhatia became its editor. It ceased publication in 1946 due to the impending partition of the country. *Bengal Library Association Bulletin*, published in English and Bengali, started publication from Calcutta in 1937. It was the official organ of the Bengal Library Association and its then editor was Dr. Niharranjan Ray. It ceased publication in 1952. *Andhra Granthalayam*, a bilingual periodical published in Telugu and English was started in 1939. It was the official organ of the Andhra Desa Library Association. It remained in publication till the year 1942. Madras Library Association brought out its periodical *Memoirs of the Madras Library Association in 1940*. It remained in publication till 1944.

Pathagar, a fortnightly periodical in Bengali, was first published in 1941 by Ballingunge Institute, Calcutta, in collaboration with the Bengal Library Association. It ceased publication in 1943. *Library Bulletin* was a quarterly publication started from Calcutta in 1942. It was the official organ of the Indian Library Association. It ceased publication in 1946. *Indian Librarian* was a quarterly publication, started from La-

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hore in 1946. It was founded and edited by Shri Ram Bhatia, an eminent figure of the library profession. It was published by him from Jullundhur. It had a long life as compared to other Indian periodicals. It ceased publication in 1983 with the death of its founder editor.

Post-Independence Period of L&IS Periodicals

Kerala Granthasala Sangam started the publication of *Granthalokam* in Malayalam in 1948. It ceased publication after some time. The exact year when it ceased publication is not known. *ABGILA* (Annals, Bulletin and Granthalaya of ILA) was published by the Indian Library Association from 1949. It was published in English and Hindi. Ranganathan was the editor of *Abgila*. It ceased publication in 1953. *Sahitya Sahakar*, a periodical in Marathi language was started by the Maharashtra Granthalaya Sangh in 1950. It remained in publication upto 1976. *Gramer Dak*, an organ of Nikhil Bharat Granthagar Prachar Samiti, Calcutta was published in Bengali. It had a short life during the early fifties. *Granthavani* in Bengali was published and edited by Priyanatha Jana, Librarian, Bengal Veterinary College, Calcutta, This periodical also had a short life from 1954 to 1958. Another periodical, *Granthalaya*, was published in English and Hindi by the Hyderabad Library Association. It ceased publication after publishing two volumes for the years 1955 and 1956.

After a short gap, The Indian Library Association again started its journal entitled *Journal of the Indian Library Association*. It was mostly edited by B.S.Kesavan. It remained in publication from 1955 to 1964. Another periodical named *Pustakalaya*, in Gujarati, was started by Gujarat Pustakalaya Sahayak Sahakari Mandal, Baroda. It also remained in existence only for a short time. *Granthapal*, an official organ of the Vidarbha Granthalaya Sangh, Nagpur, was published in three languages namely Marathi, English and Hindi. It remained in existence from 1958 to 1964. *Granthalok*, in Bengali, was published by Birchand Public Library, Agartala, Tripura. It also had short span of life from 1959 to 1961. *Pathagar*, a monthly periodical in Bengali, was edited and published by Nirmal Chandra Chaudhari, Librarian, District Library, Birbhum. It existed only from 1960 to 1962.

The Department of Library Science, Nagpur University, Nagpur, brought out *Journal of Library Science*, formerly known as *Student Librarian* (1957-58 and 1961-62). It remained in existence only during the years 1963 and 1964. *Prajna* was published in Bengali from 1963. It also ceased publication after quite a short time. Another library periodical, *College Granthagarik* was published by the West Bengal College Librarians Association. It started in 1964 and ceased publication after a short time. The Department of Library Science, Rajasthan University, Jaipur, started the publication of *Das Gupta Studies in Library Science* in 1964. It also stopped publication soon. The *Journal of Indexing and Reference Work*, formerly *Indian Periodicals* (1966-67), *Indian Periodicals Record* (1968-72) was started in 1966. The year when it ceased publication is not known. Another journal, *Noolagan*, in Tamil, appeared from Madras in 1966-67. It also ceased publication soon. A periodical named *Library Literature in India* was brought out by Library Literature House, Chandigarh, in 1967. It ceased publication after its initial issue. A still another periodical, *Granthalaya Darshini*, in Telugu, was published and edited by Dr. Velega Venkatappiah annually from Eluru. It remained in existence from 1968 to 1973. Another periodical, *Granthalaya Patrika*, in Marathi, published by Janata Granthalaya Sangh, Jalgaon, Maharashtra, ceased publication with its only issue in 1968.

In 1968, still another periodical, *Pustakalaya Sandesh*, in English and Hindi, was brought out by Indore Sambagh Pustakalaya Sangh, Indore. It remained in existence upto 1972. Granthalaya Vijnana Prakashana, Gulbarga University, Gulbarga, Karnataka, brought out a periodical, *Karnataka Granthalaya*, in 1969. It was edited and published by S. R. Gujral. It also soon went out of existence. Ravikupa Trust, Ahmedabad, brought out *Journal of Library Service*, in English and Gujarati. It was published only during the years 1971-72.

Another periodical, *Modern Library Review*, Published by the Bureau of Research and Publications of Tripura and Tripura Library Association, Agartala, jointly, existed only from 1972 to 1977. A still another periodical, *Indian Library Movement*, edited and published by N K Bhagi from Ambala remained in existence from 1974 to 1978. Later on in its place a new journal named, *International Library Movement*, was started by the editor from 1979. Another periodical, *Quarterly Journal of the Rajasthan Library Association / Rajasthan Pustakalaya Sangh Patrika*, in English and Hindi, was published by the Rajasthan Library Association and edited by S C Verma. This periodical also had a short span of life from 1974 to 1979. A periodical, *Indian Journal of Library Science*, published by the Institute of Librarians, Sanskrit College, Calcutta, was published for a short time during 1975. Another periodical, *ISIS Bulletin*, published by the Indian Society for Information Science, Bangalore, also existed for a very short period during 1976. *National Librarian*, started publication from Chandigarh in 1976. It was edited and published by Sant Singh. After 1981, no issue of this periodical has been published.

A periodical named, *Library and Librarian*, published and edited by Chandra Kant Sharma from Raipur, was n existence during the years 1977 to 1981. *College Li-rarian*, published and edited by S R Gupta, from Delhi, vas able to publish only two of its issues during the ears 1978-1979. Similarly a periodical, *Pustakalaya*, ublished by the Bihar Rajya Pusṭakalaya Sangh, Patna, vhich started publication in 1984, existed only for a hort time.

Currently published periodicals

The credit of becoming the oldest living L&IS periodical in India goes to *Granthalaya Sarvaswamu*. It started publication in 1915. It is published in Telugu by the Andhra Pradesh Library Association. However due to certain reasons, its publication remained suspended during the period from 1939 to 1947. The next oldest periodical is *IASLIC Bulletin*, a quarterly, which is being published since 1946 from Calcutta. It is the official organ of the Indian Association of Special Libraries and Information Centres. A periodical, *Granthagar*, in Bengali, is being published since 1950 by the Bengal Library Association, Calcutta. The Indian Library Association had started the publication of *Proceedings, All India Library Conference*, in 1950. The publication of this periodical, however, is quite irregular.

Annals of Library Science and Documentation, formerly *Annals of Library Science*, is published by the Indian National Scientific Documentation Centre, as a quarterly from Delhi since 1954. Over the years, this periodical has been able to earn the reputation of being a periodical with an international appeal. *Library Herald*, which is the official organ of the Delhi Library Association, made its debut in 1958. This periodical has also earned wide recognition. The Indian Association of Special Libraries and Information Centres also publishes another periodical named, *IASLIC Special Publication*. It started publication in 1960. However the publication of this periodical is quite irregular.

The year 1962 is really significant in the history of L&IS periodicals in Uttar Pradesh. It was in this year that two prominent library periodicals made their debut in the state. The first one, *Herald of Library Science*, is published by the P N Kaula Endowment for Library and Information Science, Lucknow. It is edited by the legendary professional figure P N Kaula. The second periodical is *Lucknow Librarian* published by the Uttar Pradesh Library Association, Lucknow. Both these periodicals are widely circulated and have earned appeal in the profession.

DRTC Annual Seminar is published by the Documentation Research and Training Centre, Bangalore since 1963. *LIBRA*, a bilingual periodical in English and Hindi, was started by the Department of Library Science and Documentation, University of Rajasthan, Jaipur, in 1964. Another prominent Indian Library periodical, *Library Science with a Slant to Documentation*, is being published since 1964 by the Sarada Ranganathan Endowment for Library Science, Bangalore. *Timeless Fellowship* is published by Karnatak University Library Science Association, Karnatak University, Dharwad, since 1964. *ILA Bulletin* is the official organ of the Indian Library Association, which is being published by it regularly since 1965. A periodical named *Granthagar Karmi*, in Bengali, is published by the West Bengal Government sponsored Library Employees Association, Calcutta, since 1967. *Indian Library Science Abstracts* (ILSA), the only indexing and abstracting periodical in India in L&IS discipline, is published by the Indian Association for Special Libraries and Information Centres since 1967. However its publication is quite irregular. A periodical entitled *Librarian*, in English and Bengali, is published by the Department of Library Science, Jadavpur University,Calcutta, since 1967. *DRTC Refresher Seminar Annual* is published by the Documentation Research and Training Centre, Bangalore, since 1969.

Granthalaya Vijnaana, in Hindi, is published by the Prof. Kaula Endowment for Library and Information Science, Lucknow, since 1970. A periodical, *Granthalayee*, in Hindi, is published by the Uttar Pradesh Library Association annually. The year of the origin of this periodical is, however, not known. *AALDI Bulletin* is published by the Association of Agricultural Libraries and Documentalists of India (AALDI), University of Agricultural Science, Bangalore, since 1971. *Library History Review*, a quarterly periodical since 1974, is published by the International Agency for Research in Library History, Calcutta. *BUCLA Bulletin* is published since 1975 by the Bombay University College Librarians Association, Bombay. Its publication is not regular. *ALIS Bulletin*, founded in 1976, is the organ of the Academy of Library and Information Services, University of Kerala, Trivandrum. *Journal of Library and Information Science* is published half-yearly by the Department of Library and Information Science, University of Delhi, Delhi. It is regular publication since 1976. *International Library Movement* is published and edited by N K Bhagi since 1979 from Ambala. It is published in contribution of the earlier journal, *Indian Library Movement*. A unique feature of this periodical is that at the end of each year its volume is converted into a book. *Library Today* is the organ of the Andhra Pradesh Public Library Association, Hyderabad, since 1979. *Progress of Library and Information Science* is published annually since 1979 by the Department of Library and Information Science, Banaras Hindu University, Varanasi.

Library Progress (International) is published and edited by A K Sharma from Modi Nagar (UP) since 1981.

Another periodical, *Library Science*, is published annually since 1981 by the Library Council, Jamshedpur. *International Information Communication and Education (INCAE)* is published half-yearly since 1982 by the P N Kaula Endowment for Library and Information Science, Lucknow. *College Librarian* is published since 1981 by the West Bengal College Librarian Association, Calcutta. Its Publication is, however, quite irregular. *Giila Bulletin* is published by the Government of India Library Association, Delhi, since 1983. *MLAI Bulletin* is published by the Medical Library Association of India, Delhi, since 1983. *RILISAR Bulletin*, a quarterly publication of the Ranganathan Institute of Library and Information Science for Applied Research. It also started publication in 1983. *CLIS Observer*, an R & D periodical in L&IS, archival science and book industry, is the organ of the Centre for Library and Information Studies (CLIS), New Delhi. It is edited and published by renowned Librarian D R Kalia. It started publication in 1984. Another periodical, *Granthaparivar*, in Marathi, is being sponsored and published since 1984 by the Marathwada Granthalaya Sangh, Pune. *International Librarian*, a quarterly periodical, is the latest L&IS periodical to appear on the Indian scene. It is published since 1985 by the staff of the Himachal Pradesh University Library, Shimla.

Summary and Conclusions

The present survey of the Indian L&IS periodicals shows that there were 11 periodicals which were being published in the country before 1947. Out of them 9 periodicals ceased publication before 1947 itself. Only two of the pre-independence period periodicals i.e., *Granthalaya Sarvaswamu*, started in 1915 and *IASLIC Bulletin*, started in 1946, are still being published. Out of the 68 Indian L&IS periodicals which started their publication after 1947, 32 ceased publication at different times. In other words we can say that so far a total of 79 L&IS periodicals seem to have originated in the country. Out of them only 38 periodicals are being published at present. Thus the mortality rate of Indian L&IS periodicals is more than 50 percent.

In the end we may take into account the active role and contribution of various individuals, associations, endowment trusts, departments of Library and Information Science in different universities, and institutions towards the growth and development of L&IS periodicals in India.

(i) *Individuals*
  1. Ratan Chand Malhotra
  2. Sant Ram Bhatia
  3. Dr. S. R. Ranganathan
  4. B.S. Kesavan
  5. P.N. Kaula
  6. N.K. Bhagi

(ii) *Associations*
  1. Punjab Library Association
  2. Indian Library Association
  3. Indian Association of Special Libraries and Information Centres
  4. Andhra Pradesh Library Association
  5. Bengal Library Association
  6. Delhi Library Association
  7. Hyderabad Library Association
  8. Madras Library Association
  9. Maharashtra Granthalaya Sangh
  10. Rajasthan Library Association
  11. Uttar Pradesh Library Association

(iii) *Endowment Trusts*
  1. Sarada Ranganathan Endowment for Library Science
  2. Prof. Kaula Endowment for Library and Information Science

(iv) *Departments of Library and Information Science in various universities*
  1. Department of Library and Information Science, University of Delhi, Delhi.
  2. Department of Library Science and Documentation, University of Rajasthan, Jaipur.
  3. Karnatak University Library Science Association, Dharwad.
  4. Academy of Library and Information Services, University of Kerala, Trivandrum.
  5. Department of Library Science, Nagpur University, Nagpur.

(v) *Institutions*
  1. Documentation Research and Training Centre, Bangalore.
  2. Ranganathan Institute of Library and Information Science for Applied Research, Bangalore.
  3. Indian National Scientific Documentation Centre, New Delhi.

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Afro-Asian Publishing Conferences

Abul Hasan*

The National Book Trust, India, organised, with partial financial assistance from Unesco under the Participation Programme, the first ever Afro-Asian Publishing Conference in February 1990 alongside the 9th New Delhi World Book Fair. The objectives of the Conference were to create better awareness of the status of the book industry in Asia and Africa, assess its potential and identify the areas of mutual co-operation through national and regional initiatives. About 60 participants joined the Conference from 13 countries of Asia and Africa. This was the First Conference of its kind which led to a South-South dialogue at both intra-regional and inter-regional level and established an effective mechanism to deal with the difficulties being faced by the two regions in the realm of books.

At the end of the Conference, a **New Delhi Declaration** was issued which *interalia* noted that despite a vast reservoir of scholastic and creative talent within the two developing regions, there was a continued dependence of nearly all the countries on functional and literary material emanating from countries outside the two regions with different environment. The Conference viewed this situation as a challenge and decided to set up an Afro-Asian Book Council to realise the potential in the two regions for self-reliance in the field of authorship and publishing. The Council aims at author-development, co-publishing, establishment of research and training facilities for the book personnel, two-way flow of reasonably priced books and reading material and exchange of books and information about books.

Following the First Afro-Asian Publishing Conference in New Delhi in February 1990, the second Conference of Afro-Asian Publishers was held in Mauritius from 9-11 may, 1991 to promote areas of mutual co-operation in the field of educational books. Organised by the Afro-Asian Book Council in collaboration with Editions de L'Ocean Indien, the Conference attracted 30 participants from 8 Afro-Asian countries viz; Singapore, Malaysia, India, Sri Lanka, Kenya, Zimbabwe, Madagascar and Mauritius. The Conference was supported by three international organisations. While the Commonwealth Foundation, London made travel grants to some participants, the World Intellectual Property Organisation, Geneva and the Asian Cultural Centre for Unesco, Tokyo sent their publications for display at the book exhibition mounted at the venue of the Conference. The German Government agency, Deutsche Gesellchaft Fur Technische Zusammenarbeit (GTZ) also sent its representative to the Conference.

The Conference which was inaugurated by the Education Minister of Mauritius, discussed various aspects of creation, production, distribution and promotion of School and University level books. At the end a Protocol was released containing the main recommendations of the Conference which include creation of permanent exhibits of Afro-Asian literature in Mauritius, Kenya, Sri Lanka and India, establishment of an information data base for the book industry professionals, provision of advice of authors in search of publishers, organisation of training programmes/workshops for authors, publishers and booksellers and a special training course for the training of the book industry trainers, and evolving a framework which will facilitate transfer of copyright to developing countries including simplification of compulsory licencing procedure.

The theme identified by the Mauritius Conference for the Third Afro-Asian Publishing Conference scheduled to be held in New Delhi on February 8 and 9, 1992 to synchronise with the 10th World Book Fair is: *Publishing for self-reliance-development and promotion of indigenous literature.*

Promotion of indigenous authorship and national book industries is the key factor in the development of books and reading in Asia and Africa. The Third Conference would discuss such matters relating to the two regions as the importance and place of indigenous books, the status of local creators, producers and distributors of books including desk top and electronic publishing, the prime need and special features of a national book policy, the role of National Book Development Councils, training of the book industry personnel, a balanced flow of books among the developing countries and between developed and developing countries, desirability of adherence to copyright laws and conventions and facilitating the transfer of reprint/translation rights. The Conference will identify areas of mutual cooperation between Asia and Africa in these fields and establish a machinery for the implementation of follow-up action in this regard with the cooperation of international funding agencies, wherever necessary.

Over one hundred participants have been invited to the Conference including 72 members of the Afro-Asian Book Council from 20 countries. The invitees will also include book experts from outside the Afro-Asian region and representatives of the relevant inter-governmental and international funding organisations. The language of the Conference will be English. A detailed report of the Conference will be published and distributed widely within six months after the Conference.

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Indian Philosophy & Culture

Dr. S. Muthukumaran, Vice-Chancellor, Bharathidasan University delivered the inaugural address at the 66th Session of the Indian Philosophical Congress at Tiruchirapalli. He said, "If by culture we mean a 'way of life', then it should naturally have its basis in a 'view of life'. That means, a Culture, in its very nature, should be firmly rooted in a philosophy. To the question as to what has made Indian Culture survive so long, the answer is not far to seek. It is only its philosophy that has lent it vitality and strength." Excerpts

Culture is usually defined as a way of life of a people crystallised through generations. In the world arena, many cultures have emerged, existed and disappeared, but there are some cultures that still keep going like the perennial Ganges. Indian Culture is one of them. It has faced many challenges, withstood many onslaughts and passed through many upheavals, only to survive and earn the name "LIVING CULTURE".

If by culture we mean a 'way of life', then it should naturally have its basis in a 'view of life'. That means, a Culture, in its very nature, should be firmly rooted in a philosophy. To the question as to what has made Indian Culture survive so long, the answer is not far to seek. It is only its philosophy that has lent it vitality and strength.

Philosophy is closely linked with values. No matter whether philosophy shapes or is shaped by values, it can be said without any fear of contradiction that philosophy and values are inextricably intertwined. The more ennobling the philosophy, the loftier the values associated with that philosophy. That being so, it is not a long step in the argument to conclude that Indian Culture has survived over the ages by virtue of its values and philosophy.

The most important contributions to Indian philosophy result from Hindu Philosophy. The two basic and main dimensions of Hindu Philosophy as understood and practised today, namely Saivism and Vaishnavism had their deep roots in Tamil soil. If the very conceptualisation of Saiva Siddhantha was made by Nayanmars and other saintly philosophers of Tamil Nadu, the formalisation and propagation of Vaishnavism was done by the Alwars. True, Saivism and Vaishnavism have been practised throughout India, through the length and breadth of this ancient country; but Tamil philosophers could take the legitimate pride of having played a pioneering role in giving a philosophical form and shape to these religious principles.

Saiva Siddhantha is exclusive Tamil Philosophy. The ancient Tholkappiam and Sangam Literature provide ample evidence of the origin and evolution of Saiva Siddhantha in Tamil Nadu. Thirumoolar's *Thirumanthiram*, Vaseeka Munivar's *Gnanamirtham* and later Sivagnana Munivar's *Sivagnanabotham* and Chekkizhar's *Periyapuranam* are some of the masterpieces in Saivite literature which bring out the essence of this religious philosophy in the most convincing manner. Because of the currency of some of the Sanskrit terms used in Savia Siddhantha philosophy some people tend to have a mistaken notion that the entire philosophy was developed from Sanskrit scripts written in the North. This mistaken notion has been adequately corrected by great Tamil scholars such as Maraimalai Adigal, Thiru Vi. Kalyanasundranar and Kaa. Su. Pillai. G.U. Pope also acknowledges the fact that Saiva Siddhantha is a Tamil Philosophy and it has become a way of life for the Tamils.

Similarly, the philosophy of Vaishnavism could be very well appreciated in the heart-rending pasurams of Alwars. Incidentally, one of the ancient Vaishnavite centres, Srirangam, where the Alwars worshipped and eulogised the virtues of Lord Narayana, is just on the other side of the river Cauvery. And it may not be far fetched to say that the syllable '*Nar*' in Naarayanan (a God associated with ocean) communes with the Tamil word '*Neer*'. That the ancient Tamils not only worshipped Lord Vishnu but were conversant with the Vaishnavite philosophy could be realised from Tholkappiam (more than 2000 years old):

மாயோன் மேய காடுறை
உலகம் . . . .
வருணன் மேய பெருமணல்
உலகம். . .

i.e., Lord Vishnu is worshipped in forest lands
Lord Varuna is worshipped in coastal lands

The worship of Lord 'Kannan' *i.e.*, 'Krishna' (as the God of shepherds) was widely prevalent among the ancient Tamils who lived in pastoral lands (a land known as '*Mullai*' in Tamil).

As far as Vaishnavism is concerned, by the establishment of an "organisational/institutional structure" by Ramanuja, the preaching and practice of this religious philosophy was made orderly.

Another valuable component in

the Tamil culture and philosophy is the predominance of "humanism" and "Universal Love of brotherhood". It is not an exaggeration if I say that for the references to humanism and universal brotherhood found in the ancient literary works of Tamils there is no parallel elsewhere. I cannot resist the temptation to quote at least one or two precious Tamil poems from the Sangam literature (more than 2000 years old);

"யாதும் ஊரே யாவரும் கேளிர்
தீதும் நன்றும் பிறர் தர வாரா . . . ."

– புறநானூறு

(Every town is mine; every human being is my relative; good or bad, everything results from my own actions and nobody else is responsible). The above poem stresses the significance of universal humanism in a most inspiring manner. *Thirukkural* is another important work which gives a comprehensive conceptualisation of humanism in all its dimensions. To love a human being, irrespective of his caste, creed, religion or colour has been the main point of thrust in these old Tamil literature. This has pervaded through all walks of Tamil life and in all the social institutions including that of family. This message is now part and parcel of the life of the average Indian.

"யாயும் ஞாயும் யாரா கியரோ
எந்தையும் நுந்தையும் எம்முறைக்
    கேளிர்
யானும் நீயும் எவ்வழி அறிதும்?
செம்புலப்பெயல் நீர்போல
அன்புடை நெஞ்சம் தாம்
    கலந்தனவே"

– குறுந்தொகை

The above stanza illustrates the deep love between the two (man and wife) who were never related in any manner earlier, but now inseparably united on the basis of love and affection. Thus the earliest concept of family, did not countenance any other sub-divisions of social institutions.

யாண்டுபல வாக நரையில வாகுதல்
யாங்கா கியரென வினவுதி ராயின்
மாண்டவென் மனைவியொடு
    மக்களு நிரம்பினர்
யான்கண் டனையரென்
    விளையரும் வேந்தனும்
அல்லவை செய்யான் காக்கு
    மதன்றலை
ஆன்றவிந் தடங்கிய கொள்கைச்
சான்றோர் பலர்யான் வாழு மூரே

– புறநானூறு

"If anyone wants to know how is it that I do not have grey hair even though I am old, I would inform him: My wife has an exemplary character. My children have acquired the knowledge that is necessary. My servants value what I value. The King rules the country according to law and never does anything wrong. Further, in the town where I live, there are several men with good character and conduct who can be examples to others."

Anyone who reads the Sangam literature will be impressed by two things: Firstly, when most of the peoples who lived in the ancient lands were writing about Kings and Queens and the achievements of their warrior Kings, the Tamils were writing about the lives of ordinary people. (Perhaps there is no parallel to such literature anywhere else in the world). Secondly, the closeness of the thoughts, values and philosophy contained in these literary pieces with those that we consider today as truly Indian thought, Indian values and Indian philosophy. It is in this context, I am trying to highlight some of the remarkable contributions of early Tamils to Indian Philosophy.

During the historic times, we also know that there have been several invasions into India from the north of Himalayas. These invasions had their effect on the Indian culture and consequently on Indian Philosophy. But as the effect of these invasions were not felt so strongly in the south, as in the north, the Indian culture and philosophy of the times have been well preserved in the south. We also see during the historic period, the revival of the Hindu Philosophy has invariably originated in the south and spread towards the north during the period of intermission between two invasions, as the effect of the invasion was waning and the invaders were getting assimilated in the large multitudes of the local population.

From the foregoing it is clear that the Tamil Nadu has contributed substantially to Indian Philosophy. I have a feeling that the legitimacy of Tamils' contribution has not been given its pride of place in history of Indian Philosophy. Such a situation, I am afraid, might be due to poor perception of the philosophical content of early Tamil writings and a poor appreciation of the social changes that have been taking place in this country during the historic period. I do not blame for this, the leading philosophers of the country who do not know Tamil; and but, the Tamil-speaking philosophers and scholars have not done their best in bringing out and popularising contributions of the Tamils to Indian Philosophy. It is always better late than never. I do hope that his aspect of research into the ancient Tamil literature to understand Indian Philosophy better may be undertaken atleast from now on.

Before closing, I would like to observe that anyone considering the writings of yester years and looking at the events happening around us now (people fighting among themselves on the basis of religion and language, younger generation resorting to drugs for seeking bliss and so on) will raise his eyebrows and ask a very pertinent question, whether this culture will survive? The reason for this destability is the shift in the emphasis of values because of the conflict between Tradition and Modernity as imported from the West. But, a perusal of the history of Indian Culture from the perspective of values, clearly reveals that the predicament that Indian Culture is facing now is not something new. Over the centuries, Indian Culture has faced such tribulations time and again. But every time Indian Culture faced destability, there appeared an individual who was responsible for the revival of the old Indian values, culture and philosophy (in the words of Lord Krishna, *Sambhavami Yugey, Yugey*!).

Observing the deterioration in the values imbibed by the younger generation, almost every Education Commission has expressed the need for teaching of values, social, moral and spiritual. But however, in practice, this has not been done. As a matter of fact, during the long fortyfour years after Independence, there has been a steady attempt to erase or keep away from the minds of our younger generation the basic principles of religion, especially the religion of the majority of the people of India. The reasons oft-cited for this state of affairs are the provisions of Article 28 and 30 of our Constitution.

These Articles are reproduced below:

> 28.(1) No religious instruction shall be provided in any educational institution wholly maintained out of State funds.
>
> (2) Nothing in clause (1) shall apply to an educational institution which is administrated by the State but has been established under any endowment or trust which requires religious instruction shall be imparted in such institution.
>
> (3) No person attending any educational institution recognised by the State or receiving aid out of State funds, shall be required to take part in any religious instruction that may be imparted in such institution or attend any religious worship that may be conducted in such institution or in any premises attached thereto unless such person, or, if such person is a minor, his guardian, has given his consent thereto.
>
> 30.(1) All minorities, whether based on religion or language, shall have the right to establish and administer educational institutions of their choice.
>
> (2) The state shall not, in granting aid to educational institutions, discriminate against any educational institution on the ground that it is under the management of a minority, whether based on religion or language.

In practice, all religious instructions to students are confined to minority institutions, i.e., the instructions are not on the religion of the majority community but of the minority communities.

This naturally raises a question, whether or not a young person belonging to the majority community has a right to get instruction about his religion from the colleges partly or wholly funded by the Government?

Today, the average college or school going student comes from a family, where he does not have the opportunity to study texts of his own religion. Anyone, who sees a Quiz programme in a college or on our TV would have noticed that the questions which remain unanswered by all the participating teams, are the simple questions on our epics or other religious texts of our country or sometimes the particular State to which the participants belong.

There is no doubt that all educationists agree that this situation must be remedied. Perhaps, this situation can be remedied only if people belonging to the majority community are given the right to learn the texts of their religion from the schools and colleges.

As our society is a culturally plural society, we are justifiably concerned about fostering values oriented towards unity and national integration. But such concern should not be at the cost of one's own religion. Our history cannot be wiped out. What we are today depends largely on our past. Our value system, knowingly or unknowingly, depends largely upon the way our civilisation has evolved. Therefore, in order to understand ourselves, and to understand the value system of our community, it is necessary to learn the important texts of our religion.

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Indian Science Congress Held at Vadodara

The Prime Minister, Mr. P.V. Narasimha Rao, called for fundamental changes in science and technology thinking to suit the country's priorities and optimally utilise its population explosion. In spite of substantial contributions by scientists during the post-Independence era, the country had been able to achieve its plan targets, primarily owing to failure in bringing down the population growth which was increasing by two per cent annually, he said while declaring open the 79th session of the Indian Science Congress recently at the M.S. University of Baroda. The focal theme of the conference was Science, Development and Population.

Mr Rao wanted scientists and industrialists to draw up an action plan to harness solar energy and exploit genetic engineering methods to make the country a leader among developing countries and not be left far behind in the race.

The Prime Minister congratulated scientists for making the country self-reliant in food and many areas of technology, but lamented that despite these achievements the gap between the country and advanced nations was growing.

He listed basic structural weakness in production system, inadequate appreciation of research work done in laboratories and universities by industry, bureaucratisation in scientific institutions and the unchecked population, as glaring hindrances.

A major challenge for the Indian scientists was to develop methods for population control. The decade of the 1990's would show whether the country can meet the challenge of population explosion in which scientists would be the important players, he said.

"I see in our population a potential, ready to be harnessed." however, population should not be seen as an anti-thesis to the country's development. Mr. Rao said, adding that the "central task before us is to convert the vast latent potential of our young population into a productive one."

Stating that his Government was giving priority to family welfare programmes, he said the grassroot anganwadi worker would form the nucleus or primary inspirer of the programmes which would receive a major thrust during the Eighth Plan.

"We should realise that family planning is a very private decision-making process. Awareness has to be created at the person-to-person, couple level in the language they know and not in scientific terms to achieve good results."

The Prime Minister also suggested an action plan for scientists and industrialists to develop innovative "home growth" technologies required for India and to make the country a net exporter of technologies by the turn of the century. India's balance of payments position could be solved only when India became a net exporter of technologies, he said.

Mr. Rao said India had taken up a challenge at the second G-15 summit at Caracas to develop solar energy technology and gene banks for developing countries. If this was not achieved in the next two, or three years, India would lose its position in the developing world, he said.

Mr. Rao told the distinguished scientists that very little had been done by Indian scientists to improve the quality of life of the rural people. He wanted various chief ministers to go to the villages and see for themselves the inadequate contribution of science to improve rural life.

Decrying the practice of excessive use of chemical fertilizers, he told the scientists that "you are killing the soil. What is happening is mining the soil and not farming the soil."

Although chemical fertilizers could not be eliminated fully they could be properly supplemented to reverse the process of diminishing returns, he said.

Recalling that the excessive use of DDT had made mosquitoes immune to it, he pointed out that Kerala and Pondicherry had carried out excellent programmes for eradication of malaria through environment sanitation.

These two states were real show pieces in this area but necessary attention had not been given to the programmes, he said.

Gujarat Chief Minister, Mr. Chimanbhai Patel, who inaugurated the science exhibition, called for political will to tackle the population problem. Otherwise it would create frustration and even political upheavals, he said.

He urged the scientists to explore

the possibilities of desalinating sea water to make it potable, evolving proper pollution control mechanisms and chalking out programmes to make use of the unutilised human resources for employment and economic development. Gujarat Governor, Dr. Sarup Singh released the souvenir brought out to mark the science congress, the largest gathering of Indian scientists.

Earlier in his presidential address, Dr Vasant Gowariker, science advisor to the Prime Minister, appealed to scientists to evolve "action possibilities" to find an acceptable Indian solution to the population problem.

Participating in the deliberations at the Science Congress Maharashtra Governor C. Subramaniam called for integrating the efforts of universities, research institutions and industrial sector for the application of science and technology for betterment of society. He suggested that a panel be set up by the Indian Science Congress to propose a strategy for upgrading science education at the school, college and university level.

Mr. Subramaniam said that the key to prosperity for any society lay in its emphasis on a scientific approach. Research and development were a must for progress he said, adding that there was no harm in importing technology. He, however, warned against the dependence on foreign countries for technology. Indigenous technology needs to be developed, he said. He pleaded for more funds to be diverted to the science and technology department. Quoting the example of Japan, the Governor said that for every dollar worth of technology imported, the Japanese spend five time as much on development of research in the country.

He also pointed out that the concentration of research and development should be in the field of general science and energy.

Mr Subramaniam said that despite the third largest population of the world scientific and technical manpower the country lacked adequate linkage between science and technology on the one hand and economic and productive sector in the other.

Mr Subramaniam spoke at length of the pilot plant set up by the Department of Science and Technology at Deonar for converting garbage into energy sources like fuel pellets by developing appropriate technologies. He also dwelt at length on the proposal for setting up an institute of advance study at Bombay on the lines of the one at Princeton and a college of excellence for highly talented people.

The college of excellence proposed by the Governor would train 400 students selected strictly on merit for five years in basic sciences granting them post-graduate degrees.

'Indian Science did not progress because scientists had no goals and were only seeking to gain fame and "respectability" abroad', Dr A. S. Paintal, former Director-General of the Indian Council of Medical Research (ICMR), told the Science Congress.

Dr Paintal, who was also former President of the Indian National Science Academy, said pursuit of respectability as a goal in itself by scientists and science agencies in the last 20 years was the bane of Indian science.

He said even as chief of ICMR he could not push his well-meaning programmes on family planning because his own colleagues did not consider these respectable enough in the eyes of the West.

Speaking on the focal theme, "Science, Population and Development," Dr Paintal said neglect of young women and failure to promote the contraceptive pill were mainly responsible for uncontrolled population growth. As Chief of ICMR he advocated both these strategies; he met with resistance.

He said: "I pleaded that we must focus on young women from the age of nine so that they could produce healthy babies and have control on their pregnancies. But many colleagues did not like this approach as it did not carry respectability."

"Instead they found respectability in testing new contraceptives developed abroad, in organizing meetings, writing reports, and going abroad for discussions for which patronage was available," he said.

He said a small country like Mauritius controlled its population by covering 55.6% of its women with the pill while India failed to make the pill available to women.

"We failed because pushing the pill was not considered as respectable as testing newer contraceptives being developed in the West," he said.

In an apparent reference to the birth control vaccine under trial in India, Dr Paintal said India was going after a mirage because the vaccine "cannot be made quite safe and without serious side effects."

Dr Paintal asked scientists not to be misled by the fact that the birth control vaccine is being supported by some international agencies.

"They have their own reasons to do so," he said, "Just remind yourself about the result of foreign support to our Institutes of Technology (IIT). Has India gained in any way by this support?''

Dr Paintal said control of AIDS through educational campaign is another field where India ''is likely to lose owing to our love of respectability'' by toeing the line of the World Health Organization.

He said the WHO coined slogans such as ''use condoms and have safe sex'' inadvertently recommended promiscuity but not self-control which is the key message that must be propagated.

He said except for the nuclear and space programmes which had definite goals, all other efforts resulted in failure because ''respectability'' took precedence over goals.

He called upon science agencies to ''curtail the pursuit of respectability as a goal in itself,'' aiming for respectability is okay up to university level, ''but scientists in public funded institutes must have some goals and strive to achieve them,'' he said.

The Indian Ambassador to the United States, Dr Abid Hussain called for additional funds for science, technology and education. Speaking at the Indian Science Congress he also made a plea for ending bureaucratisation of research institutions.

Dr. Hussain said that the Government should allocate more funds for the advancement of science, technology and education in the country and even suggested that some funds from the defence budget be diverted to these fields.''

Dr Hussain came down sharply on the scientists within the country who have reduced research institutions to ''replicas of tehsildar's offices with its red tapism.'' He said that Indian scientists both in the country and abroad had time and again proved their calibre. Those scientist who were abroad have outshined the others, he said, adding that some of the finest scientists who stayed back in the country were ''reduced to the level of mere clerks due to the political and bureaucratic system''. He urged those in research institutions to facilitate and not hinder the new talent from coming forward. He also urged the people at the top to make way for the younger talents.

Dr Hussain called upon the scientists to do some soul searching and reconsider the projects which were underway in the various laboratories across the country. ''Scientists should take up projects relevant in bringing about social reforms,'' he said.

Speaking on the focal theme ''Science, Development and Population,'' Dr Hussain said that population could not be made an excuse for lack of development in any country. He added that educating the masses was the way to check population growth. Poverty, he said, could only be tackled by increasing production through more advancements in science and technology.

Dr. A.P.J. Abdul Kalam, Director of the Defence Research Development Laboratory, Hyderabad said that India would take cooperation with two other countries on hyper engine technology for the multiple target missile, 'Akash', scheduled for launch in 1995.

The joint effort would be initiated in another three months time. The payload capability of 'Akash' would be more than that developed by many advanced countries, he said.

At present, four institutions - the Indian Institute of science, the Indian Institute of Technology, Madras, the National Aeronautics Laboratory and the Defence Research and Development Organisation - were engaged in the development of this engine. The phased array radar technology and many other technologies are already developed, he said.

Referring to the Prithvi missile programme, he said all the materials necessary for this programme were indigenous.

Recalling the contributions of young Indian scientists, he said their brains had proved ''better than super computers''. Although 900 computer hours were required for the programmes, the Indian experts could do the work in 90 hours, he said.

The super computer which India has, could not be used for defence purposes, he said.

Dr. Kalam said 78 institutions were involved in the missile programme. These include laboratories of the DRDO, CSIR, 10 academic institutions and 41 industrial organisations.

The successful missile programme has demonstrated that a consortium approach involving the participation of various laboratories and the industry could achieve creditable breakthrough.

The Science Congress recommended setting up a national network to create an awareness about population issues and a national centre for research and training in DNA fingerprinting for forensic use.

Dr Vasant Gowariker, advisor to the Prime Minister on science and technology and General President of the congress, said the session sought to explore the ''population question'' from different perspectives and provided an opportunity to scholars and professionals to learn from each other.

While checking population growth is of prime importance, it was pointed out, the development of the existing population was equally important. In this context, application of techniques of different branches of science for formulating projects to create job opportunities was stressed.

The Congress wanted human population to be viewed as one of the most important national assets rather than a liability. The Congress desired the promotion of Ayurvedic and homeopathic system for population control among humans and livestock. It was felt that reorientation of existing methods to propagate need for birth control and good health was required.

The Congress suggested continuation of research efforts to explore indigenous materials which are economical and easily available in fertility control programmes along with birth control vaccines.

It also suggested that the primary health centres should have at least one psychologist for counselling.

With the national population expected to reach one billion by 2000, it was essential to create massive employment opportunities with low investment observed the congress.

The deliberations of the congress attended by over 3,500 scientists from India and abroad were conducted in different sections headed by Sectional Presidents. The names of the General President and the Sectional Presidents are as under:

General President : Dr. Vasant Gowariker, Advisor to the Prime Minister on Science & Technology.

Section of Mathematics : Prof N.K. Thakare, Vice-Chancellor, North Maharashtra University, Jalgaon.

Section of Statistics : Prof K.P. Parthasarathy, Distinguished Scientist, Delhi Centre of Indian Statistical Institute, Calcutta.

Section of Physics : Dr. R. Chidambaram, Hony. Professor, Jawaharlal Nehru Centre for Advanced Scientific Research, Bangalore.

Section of Chemistry : Prof H.P. Tiwari, Head, Department of Chemistry, University of Allahabad. Allahabad.

Section of Biochemistry, Biophysics & Molecular Biology : Prof. A.N. Bhaduri, Director, Indian Institute of Chemical Biology, Calcutta.

Section of Material Sciences : Prof S.K. Lahiri, Director-grade-Scientist, Central Glass & Ceramic Research Institute, Calcutta.

Section of Earth System Sciences: Dr. N. K. Mukherjee, Formerly Head of the Department of Geology, Banaras Hindu University, Varanasi.

Section of Botany : Prof R.M. Pai, Head, Department of Botany, Marathwada University, Aurangabad.

Section of Anthropology and Archaeology : Prof J.C. Sharma, Professor & Chairman, Department of Anthropology, Panjab University, Chandigarh.

Section of Medical & Veterinary Sciences : Prof. Tirthakumar Das, Head, Agricultural Research Station, Nagamangala (Karnataka)

Section of Agriculture Sciences: Prof S.K. Mukhopadhyay Visva Bharati, Santiniketan.

Section of Physiology : Dr. Lazar Mathew, Director, Directorate of Agricultural and Biomedical Sciences, Defence Research and Development Organisation, New Delhi.

Section of Psychology & Educational Sciences : Dr. G.C. Rai, Vice-Chancellor, M.L. Sukhadia University, Udaipur.

Section of Engineering Sciences: Dr. J.H. Agarwal, Director (Instrumentation) Jawaharlal Nehru Agricultural University, Jabalpur.

Section of Computer Sciences : Prof. V. Rajaraman, Prof & Chairman, Computer Centre, Indian Institute of Science, Bangalore.

The 80th session of the Science Congress would be held in Goa in 1993. Dr. S.Z. Qasim, Member, Planning Commission has been elected President for that session.

Academic Resources Exchange via Satellite

Researchers and scholars across the country will soon be able to exchange bulk of academic resources through satellite, following the development of an information and library network (INFLIBNET) programme in Ahmedabad by the UGC.

INFLIBNET is a computer–communication network linking libraries, research and development institutions, information centres and the research community across the country so as to share the limited academic resources for optimum utilisation and to avoid duplication in the holding to the extent possible.

Mr Pramod Kumar, director of the INFLIBNET centre, said that according to an estimate the country spent about Rs 500 crore annually for acquiring new library resources out of which Rs 150 to Rs 200 crore was being spent on acquisition of foreign journals. Mr Kumar said researchers and designers in the country still felt seriously handicapped due to paucity of resources and the services offered by the libraries, even the reasonably good libraries were finding it difficult to keep up subscriptions and to get good books due to 15 to 20 per cent increase in the costs per year.

At the same time, he said there was substantial duplication in the holdings of literature resources and synopsis of thousands of Ph.D. theses produced every year were seldom available to others who wanted to work in the same field.

Mr Kumar said at present the data that existed at one place were not accessible to those who were not in the remote areas felt mentally isolated.

Explaining the scope of the network, Mr O.P Arora, one of the scientists engaged in the programme, said INFLIBNET would support 400 satellite nodes comprising regional centres (RCs), universities libraries, sectoral information centres (SICs) and the document resources centre (DRC).

Besides, it would also support centres like college departmental libraries and research and development institutions connected through local area network (LAN), dial in telephone lines or a leased line using one of the satellite nodes.

Mr Arora said that catalogue search in the overall system hierarchy was such that a user could first find out from his college or department library whether the required book of interest was available or not. If not, as a next step, Mr Arora said search was made in the university library and finally in its regional centre through union catalogue of its own region and other region.

Mr Arora said college and university libraries would have direct access to sector information centres for non-bibliographic services and for local and external database on specialised subjects. He said the documents resources centre would deliver the literature request either through FAX or by other means copy.

Initially it was proposed to establish a network of 80 to 100 nodes in the country without any change in the basic philosophy of evolving an effective information transfer mechanism and thrust would be given to link some of the most deprived and remote universities and institutions with latest information. In the next phase the network would be expanded to cover the entire country in the Ninth Plan.

Mr Arora said it was also proposed to equip the existing staff by providing training in the field of automation and computerisation of libraries. This would be an on-going activity and a training cell was being established in the INFLIBNET programme.

Legal Aid Clinics in Varsities

The government is reported to have decided to set up legal aid clinics in universities and law colleges in an effort to involve law students in the legal aid programme. Such clinics will help channelize their (law students) energies towards constructive work.

The high powered Committee for Implementing Legal-Aid Schemes (CILAS), headed by the Chief Justice of India, Mr Justice M.H. Kania, has adopted a two pronged legal-aid programme - court or litigation oriented legal-aid and preventive or strategic legal-aid. Under the court oriented legal-aid programme, dispensation of legal aid is the responsibility of the State legal-aid and advice bodies.

Preventive or strategic legal-aid envisaged a system under which the legal-aid committee endeavoured to keep a number of cases out of court by proper conciliation. The object of non-litigative aid and prevention of litigation is not to increase litigation but to rather diminish it, to the extent possible.

CILAS has also undertaken a programme to provide training in rudimentary knowledge of law and the basic elements of social welfare laws and procedures to social workers and other men and women belonging to weaker sections of society. These "para legals" give first-aid in law to people and bring about community rights mobilization, mutual reconciliation and settlement of problems.

Public interest litigation seeks to reach justice to the common man by making basic human rights meaningful for him.

29% Students Opt for Science

According to the World Education report - 1991 published by UNESCO, the first in a new biennial series, 38 per cent Indian students choose the humanities and 23 per cent law and social science as against 29 per cent who take the natural sciences, engineering and agriculture and only 4 per cent go in for medicine.

In 1988 India spent 8.5 percent of the total government expenditure on education. Among the 24 Asian countries out of 41 for which figures are available, only Sri Lanka and Laos fared worse, the report said.

According to a UNESCO release

the report examines selected issues of education policy against the changing background of world education. It reviews the development of education at the global level over the last two decades, focussing mainly on access to and participation in the formal system, even as it draws attention to regional variations especially in the poorest countries.

Report aims at presenting a broad but concise analysis of major trends and policy issues in education in the world today. Besides discussing the continuing challenges that face basic education, it also deals with the global prospects of education for all.

Financial Assistance for Participation in Conferences Abroad

The Indian National Science Academy (INSA) invites applications from scientists for partial financial assistance to participate in important Scientific International Conferences abroad during the year 1992-93. Scientists interested to avail of financial support from the Academy for participation in International Conferences to be held during the year 1992-93 may apply in the prescribed proforma available from the office of The Executive Secretary, Indian National Science Academy, Bahadur Shah Zafar Marg, New Delhi-110 002.

The scheme is operated under three different categories viz: (I) For International Conferences sponsored by the International Council of Scientific Unions (ICSU) and its affiliated bodies (ICSU Conferences); (II) For International Conferences sponsored by other agencies (Non-ICSU Conferences); (III) For applicants who are interested in partial travel assistance only for participation in any International Conferences abroad. The applicants must be below 35 years of age. This is categorised as INSA-COSTED-CSIR Travel Fellowship Grant.

Category I : Scientist who has been invited to deliver a plenary lecture/preside over a session of a scientific conference or whose paper has been accepted for presentation, and who will also be provided maintenance allowance during his/her stay abroad and partial travel expenses by some agency, will be given preference over others. INSA's financial support, in case of selection is limited to a maximum of 50% International travel, 50% maintenance allowance for the duration of the conference and registration fee, wherever necessary. The prescribed application form duly completed should be despatched latest by January each year for consideration by a Committee of the Academy during the year.

Category II : Scientist who has been invited to deliver a plenary lecture/preside over a session or whose paper has been accepted for presentation and who will also be provided maintenance allowance during his/her stay abroad and partial travel expenses by some agency, will be given preference over others. INSA's financial support in case of selection is limited to a maximum of Rs 10,000/- only. Applications for this category should be received in the Academy for consideration three months prior to the date of commencement of the Conference.

Category III : Under this category, the scientist who is interested to avail of partial travel assistance only for participation in an International Scientific meeting or short term training (less than three months) abroad and is below 35 years of age may send his/her formal request on prescribed application form at least three months prior to the date of commencement of the conference. The proforma for this category is available from the Scientific-Secretary COSTED, COSTED Secretariat, 24, Gandhi Mandap Road, Madras-600 025. The applicant should fulfil the following eligibility criteria before sending his/her application directly to the COSTED Secretariat:

(1) He/she should be an Indian citizen below the age of 35 yrs on the date of commencement of the conference or training.
(2) The venue of the conference must be outside Indian territory.
(3) The applicant should either hold a doctorate degree or have registered for Ph.D. with two or more research publications in refereed journals.
(4) The applicant's paper should have been accepted for presentation at the conference.
(5) The local hospitality and the remaining travel expenses of the applicant has to be borne by the organisers or some other agency.
(6) The application in the prescribed format must be necessarily *at least three months prior* to the date of commencement of conference. If information on the acceptance of the paper by the applicant is not available at the time of applying it must be communicated immediately upon receipt. The release of assistance will be subject to the receipt of this information at least 6 weeks before the conference.

Application under this category will be considered by a selection committee once a quarter during the year (January, April, July & October). Selected candidates will be supported partially (upto Rs 6,000/- only) for their travel jointly by INSA, COSTED and CSIR. Other expenses like per diem, registration fees etc. will *not* be provided.

Orientation Course for Teachers

The Academic Staff College of Gorakhpur University recently organised its XI Orientation Course for newly appointed college and university teachers. Inaugurating the course Dr. A.P. Baijal, Professor and Head of the Department of Commerce, Gorakhpur University, emphasised the role of a teacher in the society. He observed that a teacher was a source of enlightenment to the members of society. Therefore, teachers had to keep themselves abreast of the latest knowledge in their respective disciplines. He said human knowledge was dynamic and it was growing at a very fast pace. Dr. Baijal underscored the significance of the Academic Staff College by pointing out that Orientation Courses added to the fund of knowledge of young teachers. He remarked that some decades back university teachers had considerable hold on society. They were aware of the burning problems of society and expressed their views on them. Unfortunately teachers gradually lost touch with society and were at present cut off from it, he observed and added that teachers had to regain their position in society.

Earlier Dr. P.S. Pandey, Director of the Academic Staff College, Gorakhpur University, in his welcome address outlined the scope and usefulness of the orientation course to the teachers who were attending the course.

Peoples of India Project

Dr. K. Suresh Singh, Director General of Anthropological Survey of India and an eminent scholar of tribal situation in India, recently delivered a talk at the Centre for Social Studies, Surat, to familiarise the people at large with the objective and major findings so far, of the now-well known Peoples of India Project. The objective of the project was to identify, enumerate and study the multiple communities of India on the basis of their language, religion, culture, caste, occupation and ethnicity. This mammoth project involving 400 researchers, 30,000 respondents took about five years so far. What made the project significant is its participatory character. The data collected so far has enumerated about 4,700 communities in India claiming to have listed the last possible community living in India. It provided fascinating information on the increasing bi-lingualism of average Indians, pattern of differentiation which included even an ecological basis, general subordination of women in these societies while some societies were matrilineal. It also came out with interesting information that Indians are a mixed lot in general terms thereby demythifying the idea of 'purity'; that about 200 cultural traits out of 400 are common to all Indians and the emergence of pidgin languages to fill the gap in the inter-community communication.

Jhabarmal Sharma Memorial Lecture

The first memorial lecture named after late Shri Jhabarmal Sharma, the leading journalist of Rajasthan, was delivered by the Vice-President of India, Dr. Shankar Dayal Sharma at Jaipur. The memorial lecture, which will be an annual feature, was organised by the Makhanlal Chaturvedi National University of Journalism, Bhopal.

Dr. Sharma spoke at length on the significant role of Hindi journalism during the freedom struggle. He pointed out that the Hindi Press had twin objectives of generating a feeling of self-respect as well as nationalism and creating public opinion against social evils, and toil fearlessly to achieve them.

Rajasthan Chief Minister, Shri Bhairon Singh Shekhawat presided.

It may be recalled that the National University of Journalism has also started the Makhanlal Chaturvedi Memorial Lecture Series at Bhopal to be held on every 4th April. Last year late Dr. Prabhakar Machve, the noted litterateur and journalist, delivered the inaugural lecture.

Centre for Tourism Studies

A Centre for Tourism Studies to develop Tourism and allied industries through education, training, research, and consultancy, was inaugurated at Pondicherry University by Hon'ble Union Minister of State for Tourism & Civil Aviation, Mr. M.O.H. Farook, on January 11, 1992. The Centre, working in collaboration with Indian Institute of Tourism & Travel Management of the Ministry, would cater to the needs of the South and would be one of the 5 Centres of Excellence in India. The Minister also inaugurated the first Master of Tourism Administration (MTA) program of the University. Dr Har Swarup Singh (Lt. Governor of Pondicherry), Mr A Gandhiraj (Minister for Education & Tourism, Pondicherry), Dr Gulshan Sharma (Professor of I.I.T.T.M.) were some of the distinguished guests who participated. MTA is the first new academic program launched since the eminent biotechnologist, Dr A. Gnanam, took over as Vice-Chancellor. Dr S.V. Narayanan, Professor in the School of Management, has taken over as Director of the Centre.

Ambedkar Birth Centenary National Essay Contest

The nation is celebrating the birth centenary of Baba Saheb Dr. B.R.

Ambedkar. As a part of Centenary Celebrations, a National Essay contest under the aegis of the National Committee for the Centenary Celebrations of Baba Saheb Dr. B.R. Ambedkar, Ministry of Welfare, Govt. of India, is being organised on Dr. B.R. Ambedkar.

The students studying in India or abroad for graduation or post-graduation degrees in any discipline are eligible to participate in the contest.

The participants shall choose any one of the following topics:

1. Dr. Ambedkar - a Reformer or a Revolutionary.
2. Problems of Indian Rupee.
3. The Indian Constitution - an instrument of social change.
4. Methodology to translate Ambedkar's vision into reality.

The essay should be limited to 3000 words. It should be either typed in double space or neatly hand-written on one side of the paper.

Language of the essay shall be Hindi or English only.

Prizes

First	Rs. 5000/-
Second	Rs. 3500/-
Third	Rs. 2000/-

Every prize winner will also be presented a set of Dr. Ambedkar's writings and speeches as published by the Govt. of Maharashtra.

The prizes will be distributed at a ceremony later in Delhi. The prize winners would be paid 2nd Class Rail fare for the journey to Delhi to receive the prize.

Participant should enclose a certificate from the College/University certifying tnat he is a bona fide student and pursuing a course of study.

Participants should not write their names on the essay. The essays should be put in an envelope and a separate slip containing name, address, topic, language, college/university with signature of participant should be sent along with the essay.

The essays should be sent in duplicate to: Joint Secretary (CC), Ministry of Welfare, 25, Ashoka Road, New Delhi - 110 001 so as to reach him not later than 15th February 1992.

News from Agrl. Universities

Internship for Farm Graduates

Punjab Agricultural University has decided to introduce internship course for agricultural graduates on the pattern of the medical profession to improve professional skills of science graduates. This will be done after the graduates complete the four-year course.

The university runs the four-year B.Sc. (Agricultural Hons) course for boys after "10+2" examination. According to the Vice-Chancellor, Dr. Khem Singh Gill, the graduates will be paid a suitable stipend during internship for six months.

College at Faridkot

The University also proposes to open an agriculture college at Faridkot from the next academic year to cater to the needs of the cotton belt or what is known as the south-western districts of Bhatinda, Faridkot, Ferozepore and Sangrur. The literacy rate in these districts is quite low compared with other districts.

As many as 50 students will be admitted to the four-year B.Sc. (Agriculture Hons) course every year.

The university has already acquired 1200 acres for the establishment of agriculture college and regional research substation at Faridkot. Faridkot already has a regional research substation for cotton, pulses, oilseeds and other crops.

The university has also established an independent technology centre to deal with the new science & technology for genetic improvement of plants and animals. The centre will work on the pattern of the School of Energy in the College of Agricultural Engineering on the campus.

New Research Projects

The Punjab Agricultural University is also reported to have received six new research projects with an allocation of Rs 40 lakhs from the ICAR. A very significant Rs 15.82 lakhs research project "Self-inhibitors, lipid, protein and mineral metabolism during germinisation in smut spores of Neovossia indica", has been sanctioned by the U.S. Department of Agriculture.

Five research projects entitled, "Field recording and progeny testing for the improvement of crossbred bulls", "Development of Spanish bunch groundnut varieties suitable for cultivation in the spring season (mid-February) in Punjab", "Standardisation of growing practices of some asparagus species in the subtropical region of Punjab for their use as greens for the florist trade", "Tillage and crop residue management of combine harvested paddy, wheat crops" and "Production and formulation of bio-fungicide from selected isolates strains of trichoderma species", have been sanctioned by the Indian Council of Agricultural Research, New Delhi, which has allocated Rs 2.09 lakh as central assistance to select a good strain or solate of trichoderma species. Under this project research will be carried out to conduct good strain or isolate of trichoderma species which must be more promising in controlling plant diseases as compared to wild strains of anoagonists.

Soil Scientists Meet at Dapoli

The 56th Annual Convention of the Indian Society of Soil Science (ISSS) was recently organised at Dapoli. Hosted jointly by the Konkan Krishi Vidyapeeth and Dapoli Chapter of ISSS the convention was inaugurated by Dr. C.R. Bhatia, Director, Bio-medical Group, Bhaba Atomic Research Centre (BARC), Bombay. Dr. S.B. Kaderkar, Vice-Chancellor, Konkan Krishi Vidyapeeth, Dapoli presided.

In his inaugural address Dr. Bhatia expressed that increasing degradation of land and diversion of land for non-agricultural use had posed problems in increasing the agricultural production. He said that it was the responsibility of the soil scientists to impress upon the people at all levels that the carrying capacity of soils was low and needed to be enhanced through efforts at macro and micro level. Dr. Bhatia also emphasised the need of strengthening the mutual relations among soil science and other sciences for achieving sustainable agricultural development.

Dr. Kadrekar, in his presidential remarks emphasised the need for effective and optimum utilisation of the natural resources like land, water and sunlight. Quoting the example of China he said that after the post-Mao (1978) period, China exploited all its natural resources for agricultural production worth emulating by us. China sustains 45 per cent higher population with 40 per cent less land under cultivation as compared to India. He also expressed the need to generate data for different soils in various agro-climatic zones and develop low cost technologies on priority basis. He cautioned that while exploiting the land resources, one should not abuse it.

On this occasion, the soil scientists who had made valuable contributions in the research in soil science at national and international level were felicitated at the hands of Dr. S.B. Kadrekar, Vice-Chancellor.

Dr. S.B. Varade, Joint Director, Water and Land Management Institute, Aurangabad, released the Souvenir embodying the achievements of the Department of Soil Science of the Konkan Krishi Vidyapeeth. Dr. S.B. Varade delivered the ninth Prof. J.N. Mukherjee, ISSS Foundation Lecture. While the 18th Dr. R.V. Tamhane Memorial Lecture was delivered by Dr. Hari Eswaran, USDA, Washington D.C.

A national seminar on "Advances in Soil Science" was also organised on this occasion.

Dr. I.P. Abrol, Deputy Director General (SAA), Indian Council of Agricultural Research, New Delhi and President of ISSS chaired the plenary session.

One hundred seventyfive scientists from different parts of the country participated in the convention.

Institute on Sloping Agriculture Land Technology

The Indian Council of Agricultural Research proposes to set up a summer institute on Sloping Agriculture Land Technology in Orissa.

The Union Minister of State for Agriculture, Mr. K.C. Lenka, said the institute would explore the possible avenues for rehabilitation in denuded hills and conservation of nature.

The Minister inaugurated a salt demonstration and training centre, to be run by the Orissa University of Agriculture and Technology in collaboration with the Asian Rural Life Development Foundation, on the Barunei hills, about 35 kms from Bhubaneswar.

News from UGC

Countrywide Classroom Programme

Between 8th February to 15th February 1992 the following schedule of telecast on higher education through INSAT-1D under the auspices of the University Grants Commission will be observed. The programme is presented in two sets of one hour duration each every day from 1.00 p.m. to 2.00 p.m. and 4.00 p.m. to 5.00 p.m. The programme is available on the TV Network throughout the country.

Ist Transmission

1.00 p.m. to 2.00 p.m.

08.2.92
"Science of Musical Instruments-II: World of Strings"
"Born 1949"
"Week Ahead"

09.2.92
No telecast

10.2.92
- "Remote Sensing-XXIII: Summing up"
- "Management-VI: Organisation Methods"
- "College that goes to People"

11.2.92
- "Organic Reaction Mechanisms-II"
- "Sir S.S. Bhatnagar"
- "Sexually Transmitted Diseases (V.D.)"

12.2.92
- "Nuclear Energy"
- "The Great Encounter-II : Victoria Olampo and Tagore"

13.2.92
- "Active Devices"
- "What is a Rock ?"
- "Indian Poetics-III: Theory of Rasa"

14.2.92
- "Fundamentals of Mechanics-II"
- "Back to Nature"

15.2.92
- "Science of Musical Instruments-III; Nad Tantu"
- "Destiny's People: Stories of South Caroline"
- "Week Ahead"

2nd Transmission

4.00 p.m. to 5.00 p.m.

08.2.92
- "The Art of Michelangelo"
- "Luis Braille : A Monoacting by C.C. Mehta"
- "Week Ahead"

09.2.92
- No telecast

10.2.92
- "Remote Sensing-XIX: Remote Sensing For Natural Development"
- "Management-II: Management Functions"
- "The Challenge of Oceans"

11.2.92
- "Ways of Thinking-SEP-VII: Everbody Says I"
- "The distribution of Molecular Speed"
- "So you are a Vegetarian ?"

12.2.92
- "The Story of Car-I"
- "Mohenjo-Daro"
- "Rhizoscope: Automatic Endoscopy for study of Roots"

13.2.92
- "Electrical Power"
- "Deemak"
- "Why not in your City ?"

14.2.92
- "The American Vision"
- "Desert Plants - Survival in Sun and Sand"

15.2.92
- "Underwater Photography"
- "World University Service: Education for All"
- "Week Ahead"

Visiting Faculty in the Universities

The University Grants Comission at its meeting held on November 19, 1990, considered the requests from teachers of Kashmir University for providing them teaching/research assignments outside the Kashmir University as they were not able to work in Kashmir University and its colleges due to disturbances. The Commission decided to create a few positions of "Visiting Faculty" in the universities so as to provide teaching/research assignments to the teachers from Kashmir University and its affiliated colleges in the categories of 'A', 'B' and 'C' (for existing Lecturers, Readers and Professors) carrying consolidated honorarium of Rs. 2,500/- p.m., Rs. 3,000/- p.m. and Rs. 4,500/- p.m. respectively.

These teachers would draw their salaries from their parent (Kashmir) University and Colleges in addition to the honorarium at the rates as above.

The tenure of the award of the "Visiting Faculty" was to be two semesters or one academic year.

The positions of "Visiting Faculty" referred to above were to be awarded to the existing teachers in Kashmir University and its affiliated colleges on the recommendations of the receiving university which would provide the necessary working facilities.

The universities were advised by the Commission vide its letter no. F. 15-6/90 (CPP) dated January 2, 1991, to consider suitable cases and make recommendations to the UGC for approval of Visiting Faculty positions as indicated above with necessary details.

In its recent communication no. F. 15-6/90 (CPP) Vol. II dated January 8, 1992, the UGC has informed the universities that the scheme of creation of positions of 'Visiting Faculty' in universitiesOfor the migrant teachers of Kashmir University and its affiliated colleges may be extended for 1992-93. The UGC has also decided that the universities may appoint Visiting Professors/Visiting Fellows over 62 years of age and above for one year upto the age of 65 years without making a reference to the Commission.

This change in point A(6) of the guidelines for appointment of Visiting Professors in the Universities during 8th Plan period sent to the Universities vide UGC's letter of even number dated 17.1.91 has been communicated to the universities vide UGC's letter no. F. 15-5/90 (CPP) dated January 8, 1992.

Assistance to Exam Reform Units

The University Grants Commission (UGC) is reported to have agreed to extend its assistance to the existing examination reform units in the universities upto March 31, 1992. In case the State Governments agree to take over the liability being incurred on running these units with effect from April 1, 1995, the assistance of the UGC would be extended upto March 31, 1995. However, if the assurance to this effect is not received from the State Governments, the assistance of the UGC will cease with effect from April 1, 1992.

The UGC while launching a major programme of examination reforms in 1974 thought it desirable to set up examination reform units in these universities and institutions which had either introduced some steps in examination reforms and wanted to strengthen them or had taken firm decisions to introduce such measures as were suggested by the Commission from time to time.

Some of these measures included continuous internal evaluation, development of question banks, grading system, semester system and some minimum reforms relating to syllabi, question papers and conduct of examinations.

As figures reveal, continuous internal evaluation has been introduced by 52 varsities, 18 institutions deemed to be universities and 23 agricultural/technical varsities. While question banks are being developed in 18 universities, eight institutions deemed to be universities and 5 agricultural/technical universities.

While grading system is in operation in 23 universities, 12 institutions deemed to be universities and 22 agricultural/technical institutes, semester system is in operation in 51 universities, 13 deemed to be universities and 19 agricultural/technical institutes.

The figures also reveal that 89 universities and institutions have taken steps to demorcate the syllabus and each paper into well defined areas of contents along with a topic wise break up.

Besides, 85 universities and institutions have decided that examiners should be free to repeat questions in the previous examination.

Similarly, 86 institutes and universities have taken measures to ensure the smooth conduct of exams like taking adequate security steps, proper supervision and invigilation and stern action in all cases involving mass copying and use of unfair means.

News from AIU

Our New Chairperson

Dr (Miss) Armaity S. Desai

Dr (Miss) Armaity S. Desai, Director, Tata Institute of Social Sciences, Bombay, has taken over as the Chairperson of the Association of Indian Universities for the year 1992. Born on 28th April, 1934 at Bombay, Dr Desai did her B.A. (Hons) in Sociology and Anthropology from Bombay University and followed it up with Dip. SSA with Family and Child Welfare as the major areas of study from the Tata Institute of Social Sciences, Bombay. She took up lecturership at the College of Social Work of the University of Bombay for a year in 1957. In 1959, she did her M.A. in Social Work from University of Chicago, USA. She worked as a Case Worker with the Chicago Child Care Society from August 1959 to March 1961. Upon her return to India in 1961, she resumed lecturing at the College of Social Work. She again went over to the University of Chicago, USA and completed her Ph.D. in Social Work in 1969. While doing her doctorate, Miss Desai worked for little over a year as Supervisor of Case Workers and Group Workers with the University of Chicago Hospitals, USA. She also engaged postgraduate classes at the School of Social Work of the Loyola University, Chicago, from Sept 1967 to June 1969. She returned to India in 1969 and till 1982 served the College of Social Work, University of Bombay as Vice-Principal and later as its Principal from May to October 1982. In November 1982, she took over as the Director of the Tata Institute of Social Sciences, Bombay (A Deemed University under the UGC Act 1956).

Dr (Miss) Armaity S. Desai

A brilliant scholar, Dr Desai won a number of scholarships and awards during her student career. These included the Sociology Academy Prize 1953-54; the Lady Meherbai D Tata Scholarship for studies in the USA (1958-61); the Fulbright Travel Award for Ph.D. Studies (1965-69) in the USA; and the PEO and Altrusa Scholarship for women awarded to foreign students in the USA (1965-69).

A pioneer social work educationist, Dr Desai shared her expertise with a number of official and unofficial organisations as a member, convenor or consultant. She served as a member of the Commission on Self-Employed Women and Women in the Informal Sector, and a Convenor of the Task Force on Women and Health (1987), and a member of the Review Committee for the Central Welfare Board, both appointed by the Department of Women and Child Development, Govt. of India; and a Convenor of the UGC Review Committee for Social Work Education in India (1975-77). She undertook a study of women undertrials in 1982 at the instance of the then Chief Justice P.N. Bhagwati of the Supreme Court of India in a Public Interest Litigation. She served as an expert at the ESCAP Seminar for Manpower Planning for Social Development, Korea (1989), and as a member of the Commonwealth Expert Group on Human Resource Development for a Post-Apartheid South Africa (1990-91).

An erudite scholar, Dr Desai, has been associated with a number of academic organisations. She served as a member of the Board of Management of the Indira Gandhi National Open University (1986-89) and was almost 15 years a member of the Social Welfare Research Advisory Committee of the Department of Welfare and Women and Child Development, Govt. of India. She was Convenor of the Panel on Social Work Education of the university Grants Commission (1984-86); a member of the Boards of Studies in Social Work, SNDT Women's University, University of Bombay (1969-82) and of the of the Osmania University for one term. Currently, she is a member of the Council of the Association of Commonwealth Universities, London; a member of the Governing Board of Sardar Vallabhbhai Patel National Police Academy, Hyderabad; a member of the Maharashtra Council on Science and Technology, Government of Maharashtra; a member of the Executive Council and the General Council of the International Institute of Population Sciences, Bombay; a member of the Executive Council and the Court of the Jawaharlal Nehru University, New Delhi, and a member of the Executive Committee of the Indian Association for Women's Studies.

A dedicated professional, Dr Desai has served and continues to serve on a number of national and international professional bodies. She was the Vice-President of the International Association of Schools of Social Work (1976-78) and President of the Asian Regional Association for Social Work Education (1974-79). She has been actively associated with the Planning Commission as a member of the Task Force for Child, Women, Youth and Handicapped Welfare (Fifth Plan 1972), a member of the Working Group for Social Welfare (Sixth and Seventh Five Year Plans - 1980, 1983), and a member of the Steering Group on Social Welfare (Eighth Five Year Plan-1988). Currently, she is a member of the Governing Board of the India Sponsorship Committee, Bombay, and a member of the Advisory Committee of the Project, Action for Child Care and Education Services, M.S. Swaminathan Foundation, Madras.

An active researcher, Dr Desai, headed the Research Unit of the College of Social Work of the Bombay University from 1974 to 1982. During this period she conducted "a study of the recipients of scholarships for the physically handicapped in Maharashtra" on behalf of the Department of Social Welfare, Government of India. She was the Research Editor of the "Survey of the Deonar-Govandi Community" by R. Paranjpe and V. Merchant, and the "Evaluation study of Balsevika Training Centres" by R. Dastur et al. She also undertook "a study of Social Work Education in India - Students, Faculty and Cost" on behalf of the Department of Social Welfare, Govt of India. Dr Desai has to her credit the publication, "Review of Socia Work Education in India: Retrospec and Prospect", and edited jointly wit Dr (Miss) Angelina Almanzor, the publication "Curriculum Development and Teaching" for the Association of Schools of Social Work in India and the Indian Association of Trained Social Workers. Dr Desai has published about 50 research papers in highly respected academic and professional journals or presented them at national and international meetings and conferences. Dr Desai is the Editor of the Indian Journal of Social Work -- a quarterly published by the Tata Institute of Social Sciences, Bombay, since 1982.

Widely travelled and a voracious reader Dr Desai brings to her new office rich acumen and experience from administrative, academic and research fields. *University News* heartily welcomes Dr (Miss) Desai and wishes her a highly fruitful and satisfying tenure as the Chairperson of the Association of Indian Universities.

Berhampur University Hosts East Zone Youth Festival

The East Zone Inter-University Youth Festival was recently organised at the Berhampur University under the auspices of the Association of Indian Universities. Inaugurating the Festival Sri Yagyadatt Sharma, Governor of Orissa and Chancellor of the University, stressed the need for the youth of our country to enter more effectively into the mainstream of activity in political, cultural and social spheres. He emphasized the immense potential of the youth for integrated cultural action. He also called upon the participants to express their innate talents and not to imitate narrowly the cultural forms of the west.

Prof. Bibhuti Bhusan Deo, Vice-Chancellor of the Berhampur University, in his address highlighted the various areas of cultural, humanistic, scientific activities in which the Berhampur University has pioneered the cause of education. Mr. Sampson David, Sr. Cultural Officer, AIU, speaking on the occasion, stressed that the main objective of the Festival was the inculcation of our traditional cultural values among the youth and the promotion of national integration, self-respect and respect for other communities and cultures.

The inaugural function was followed by cultural items of music, dance, theatre, literary activities and fine arts.

In the Folk and Tribal Dance Competition a total of eight teams participated in the event and a wide range of traditional Indian dances were presented. Bihari Folk Dance presented by the Patna University, Sambhalpuri dance by Sri Jagannath Sanskrit Universyty, Lakihara performed by the Manipur University, Bihu dance by Gauhati University, Bhangra by Bhagalpur University, Chhatisgari Folk Dance by Ravishanker University, Bhojpuri dance by the Magadh University and a folk dance by I.G. Krishi Vishwavidyalaya, were very well received.

One-Act Play Competition was opened with Ranchi University's "Shanti Doot", depicting national integration. This was followed by the Kalyani team's "Mei Dilay Saje", dealing with the dowry issue. The Bhagalpur University's entry was "Mulya Par Bikri Kar", a satiric exposure of corruption, exploitation of the poor and their ruthless manipulation by political groups. "Andher Nagri Choupat Raja", depicting the toils of a blind and inefficient king, was presented by Patna University.

Ecology, drug-addiction, smoking and romance among others were the themes presented at the Mime Competition. One impressive performance depicted the eternal struggle of good over evil, to the tune of "Buddham Sharnam Gachhami". Another represented the way in which a stone that obstructed pedestrians found its way ultimately into a temple and became a deity.

Eight participants from various universities took part in the collage competition. This was followed by the quiz competition where Ravishankar University was adjudged the first. The Manipur University and Berhampur University were declared second while the Indian School of Mines, Dhanbad, held the third position.

The 'Nirjhar Sahitya Sanskriti Parishad' organised independently, a multilingual Kavi Sammelan which was inaugurated by Prof. K.C. Jena. He encouraged young poets to express themselves more freely. Prof. Soubhagya K. Mishra, the chief speaker, addressed the audience on various issues relating to poetry especially in the modern world. Poetry, said Prof. Mishra, satisfied a deep personal need, 'a matter of our whole being'. 'Despite the apparent unpopularity of poetry today, many new channels have been opened', he added.

After the conclusion of the competitive events, a programme of 'Old Youth' in which the Hon'ble Judges in music events Ganakalanidhi Pandit Raghunath Panigrahi, Sri Prafulla Kar and Sri Umesh Kar along with team managers, accompanists and officials presented a colourful music, and literary programme.

The valedictory function was addressed by Dr. Prasanna Kumar Pattasani, Minister of Public Grievances and Pension, Govt. of Orissa. It was preceded by a variety programme picked out of the choicest events presented at the Festival.

Sports News

Vizzy Trophy Tournament

The Vizzy Trophy Tournament is being held at Baroda from 31st Jan. to 7th Feb. '92. The zonal teams for East, West, North and South were selected by the Zonal Selection Committees as a result of watching the performance of the university teams participating in the respective Inter-University Zonal Cricket tournaments. The following are the zonal teams:

North Zone

Feroz Ghiyas (Captain) (Jamia Millia), Rajesh Sekhri (Vice Captain) (Guru Nanak Dev), Sandeep Dangi (MDU, Rohtak), Vinay Kadian (MDU, Rohtak), Lovekesh Bhatia (Kurukshetra), Jagdeep Singh (Kurukshetra), Sanjay Jhakhar (Kurukshetra), Arvind Gupta (Jamia Millia), Sanjiv Rishi (Jamia Millia), Onkar Singh (Delhi), Ravi Sehgal (Delhi), Mohan Chaturvedi (Delhi), Jaideep Singh (Guru Nanak Dev), Gagan Chopra (Guru Nanak Dev), Rajeev Sharma (Guru Nanak Dev).

East Zone

Ajay Ramnani (Ravishanker), Akhilesh Thakur (Ravishanker), Tarique Rehman (L N Mithila), Md S A Khan (L N Mithila), B K Singh (L N Mithila), S Yadav (L N Mithila), M K Jha (L N Mithila), Amitava Banerjee (Jadavpur), R Yadav (BHU), A Goswami (BHU), R S Prasad (Patna), S Rajan (Patna), Sanjay Das (Calcutta), S Chaterjee (Calcutta).

South Zone

Mujeeb-Ur-Rehman (Captain) (Madras), Abbasadi Khan (Vice Captain) (Osmania), Veerangouda (Gulbarga), Yeregouda (Gulbarga), Deepak Ramesh (Bangalore), Srikant Iyenger (Osmania), Jayprakash (Kaktiya), Arshad Hussain (Gulbarga), Fasal Alam (Osmania), T. Somesha (Bangalore), Kishan Shetty (Mangalore), Vivekanand (Andhra), Sujit Bora (Gulbarga), Nand Kishore (Osmania).

West Zone

Nilesh Modi (Gujarat), N. Makadia (MS Baroda), N. Kshetrapal (Nagpur), J.B. Pawar (MS Baroda), A. Joshi (Bhopal), K. Patadiwala (Gujarat), T. Gonsalvey (Nagpur), K. Edan (MS Baroda), R. Yadav (Amravati), H. Captain (Vice Captain) (South Gujarat), B. Brar (Captain) (MS Baroda), S.D. Lande (Poona), S. Deshpande (Nagpur), Vijay Raut (Jodhpur), Mayur Kadrekar (Bombay).

News from Abroad

Scientists for Global Responsibility

Scientists and Engineers with a conscience have a new organisation to help their struggle for a fairer world. Scientists for Global Responsibility (SGR) has been launched in England with an initial membership of 700. Its first research projects will be concerned with the military uses of science and technology.

The new organisation has been formed by relaunching Scientists Against Nuclear Arms (SANA), a scientists' peace movement organisation set up at the height of the Cold War.

Michael Rowan-Robinson, SANA vice-chairman, said: "People connected with SANA think that the military uses of science are the main problem, which is why our first projects will be in that area. But we plan to broaden out our interests from where they now are and to get a much bigger membership".

Professor Rowan-Robinson, an astrophysicist at Queen Mary and Westfield College, London, said: "We will probably do work on the environment, but we will not be doing the same campaigning work as Greenpeace or Friends of the Earth. Our task is to do authoritative work on the science, not to be a campaigning political group."

Professor Rowan-Robinson said: "There is no doubt that a large number of scientists have a strong interest in the social aspects of their work, which is why SANA has kept going while other peace movement organisations have folded. When we ran a petition against accepting Star Wars research contracts, over half the people it went to signed it, and over 80 per cent in some university departments."

China Inviting Experts

China is planning to headhunt 175,000 foreign experts -- and to send 20,000 Chinese executives and specialists abroad for training in a drive to underpin economic and technological development.

An academic, Ma Junru, has been appointed director general of the Chinese State Bureau for Foreign Experts, and will take charge of the country's ambitious overseas programme.

Professor Ma, who is also dean of the high technology college at the Chinese University of Science and Technology in Anhui Province, says China desperately needs foreign intellectuals to fuel its overall economic development, especially in high-technology industries and scientific research.

Foreign experts -- 35,000 of whom will be invited to China every year for the next five years -- will be employed in vital areas including product development, improving technology and management, key construction projects, and training in these and other fields.

Prof Ma is of the opinion that while learning chiefly from the West, China will also diversify its intellectual imports by paying more attention to experts from developing countries, particularly from south-east Asia, where they have developed simple and efficient technology that is easier to use.

The country currently has around

30,000 foreign experts from 13 countries working in education, science, industry, agriculture, publishing and other fields. More than 150,000 foreign experts and tens of thousands of foreign technical specialists have worked in China since 1979.

In 1991, no less than 40 overseas professors, lecturers, economists, technical and managerial specialists from Britain, the United States, Japan and Germany were awarded friendship prizes.

Open Varsities and Education for All

The 6th annual conference of the Asian Association of Open Universities will be held at Seoul (Korea) on September 21-23, 1992. The theme of the conference is the role of Open Universities in Promoting Education for all. The objectives of the conference are (i) to highlight the social meaning of Education for all, (ii) to provide an action framework for open universities in promoting Education for all, and (iii) to enable all participants to share experiences & research results on ongoing & planned programs among open universities.

The conference will focus on:

(1) Education for All : Concept & Context; Social, political and philosophical background; Human development and Education for All; Educational equality and Education for All; Balancing priorities: basic or higher education;

(2) Programs in Open Universities: Current Status & Vision; Literacy program; Primary & adult basic education program; Industrial training program; Continuing education program: non-degree or education program, etc.

(3) Delivery system of Open Universities in Promoting Education for All; Producing program materials; Using T.V. and radio; Utilising advanced technologies; Adopting instructional design strategies;

For further information contact may be established with : Dr. In Sung Jung, Secretariat, AAOU 1992 Annual Conference, C/o Korea Air and Correspondence University, 169, Dongsung-Dong, Chongro-Ku, Seoul 110-791, Korea.

Enrolment for Medical and Pharmaceutic Specialities in France

The Ministry of Education in France has redefined the enrolment procedure for admission to three inter-university specialisation degrees in medicine and pharmaceutics for foreign students. The 3 degrees concerned are the :

DIS -	Diplomes interuniversitaires de specialisation (Inter-university specialisation degree)
AFS -	Attestation de formation specialisee (Attestation of specialised training)
AFSA -	Attestation de formation specialisee approfondie (Attestation of advanced specialised training)

Whereas previously, the candidates applied directly to the concerned Universities, they will henceforth undergo elimination exams and have to fulfil certain conditions to be eligible.

I. D.I.S

1. The candidate will be tested for proficiency in the French language either by the Cultural Service of the Embassy of France in the country where he/she is resident, or by the inter-regional coordinator of the degree he/she is applying for, if residing in France. The test will consist of multiple choice and essay questions. Once a certificate of proficiency has been obtained, the Commission conducting the test will assign the posting of the candidate, probably in the University of his/her choice, depending on the number of seats available.

2. The DIS students will follow the same courses as the equivalent French degree students, which will be of a duration of 4 or 5 years. They will also be renumerated during their internship.

3. The dossiers of the candidates must include an official document issued by the governmental authority of his/her country of origin, stating that this degree will receive recognition there.

   The candidate must also send an attestation declaring that he/she is aware that the DIS does not give him/her the right to practice in France.

   Anyone who has already completed a DIS is not entitled to apply for another. He/she cannot change disciplines mid-term.

II. AFS and AFSA

1. AFS : This course is intended for foreign doctors or pharmacists doing their specialisation who seek to come to France only as part of their training. The course is for a period of 2 to 4 semesters.

2. AFSA : For doctors or phar-

macists who have already completed their specialisation and wish to do further training. This advanced course is for a period of 1 or 2 semesters.

3. **Enrolment Conditions** :
In their dossiers, the candidates must include a declaration attesting that they are aware that their postings may not be renumerated. However, all these posts will necessarily be in the concerned departments which conduct the training courses for the French third cycle students.

For the AFS, the head of the Institution where the candidate is doing his/her specialisation must specify the pedagogic objectives expected from this extended training in France.

For the AFSA, the candidate must state the objectives of the training he/she is pursuing.

To be eligible for the course, the candidate must obtain an attestation of proficiency in the French language from the Office of the Counsellor Cultural, Scientific & Technical Cooperation of the Embassy of France in his/her country.

School for Poverty Removal

Malaysia is planning to set up a national institute on poverty eradication that would also extend its training programme to other developing countries. The proposed institute would incorporate programmes evolved by the World Institute on Poverty Eradication (WIPER). "It is time to have a specific body to look into poverty eradication programmes to assist the government in overcoming the problem," the Agriculture Minister, Sanusi Janud, said. He had mooted the idea of such an institute.

ERCIM Fellowships 1992-93

The European Research Consortium for Informatics and Mathematics (ERCIM) offers 6 post-doctoral fellowships for the year 1992-93. The fellowship will have a duration of 18 months divided into 3 periods of six months each to be spent in one of the 6 ERCIM Institutes (CNR, CWI, GMD, INESC, INRIA, RAL). The programme will start on 1 July, 1992.

Research Themes for the fellowships are :

(i) Artificial intelligence,
(ii) Complexity and algorithms,
(iii) Computer graphics and visulization,
(iv) Concurrency,
(v) Databases and information retrieval,
(vi) Data Protection,
(vii) High speed networking,
(viii) Human computer interaction,
(ix) Multimedia systems,
(x) Performance analysis,
(xi) Scientific computation,
(xii) Signal processing,
(xiii) Software for parallel systems,
(xiv) Software technology,
(xv) Speech and image processing,
(xvi) Symbolic computation,
(xvii) System and control theory, and
(xviii) VLSI design.

For detailed information and application form, contact : ERCIM, Domaine de Voluceau, B.P. 105, 78153 Le Chesnay cedex, France.

Two New Universities for Pakistan

Two new universities are proposed to be set up in Pakistan. This was announced by the Federal Minister for Education, Syed Fakhar Imam, in Multan recently. The Minister said that one would be set up at Islamabad and the other would be established by Hamdard Foundation at Karachi. He said that the Islamabad University would set up its campuses in all the four provinces. It would maintain its standard at par with international level. "Such universities are already working in India, Korea, America and other countries and international subject experts will be attached with these universities", he said.

The Education Minister said that the present government was giving equal importance to primary and higher education because the industrial revolution could only be brought through education. "Plans are under consideration to set up various new universities in the country during next 10 years", he said. There is a vast room to improve the working of polytechnic institutions and work in this respect is in progress. After the setting up the two new universities, the number of varsities in the country would be raised to 24.

We Congratulate ....

1. **Prof. Vinayak Ramakrishna Deshpande, who has been appointed the first Vice-Chancellor of Dr. Babasaheb Ambedkar Technological University, Lonare, District Raigad.**

2. **Dr. Chandrashekhara Kambara who has been appointed Vice-Chancellor of the Kannada University in Hampi.**

Evaluation of University Teachers

I

Kindly refer to the article "Evaluation of University Teachers" by Professor Ramesh K. Srivastava which appeared in your esteemed journal "University News" of 30the December 1991. The simplest and the most objective way of assessment of the teachers would be for them to appear in the post-graduate examination (MA/MSc/MCom/MTech/ME etc.) of the same University in which they teach and in the subject they teach. The teachers scoring the highest marks may be promoted. The main objection to such a system would be as to whom to promote in case some of the students score more marks !

S Kumar
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II .

This is with reference to the article titled "Evaluation of University Teachers" by Mr. R.K. Srivastava, Professor of English, Guru Nanak Dev University, Amritsar appearing in the *University News* issue of December 30, 1991.

I must congratulate the author for writing on a very important but neglected topic in the field of education. A good teacher needs to possess ability of not only transferring knowledge to his students but also must have ability to create a strong urge for learning in the minds of the students. He is, therefore, required to be endowed with several qualities like - clarity and simplicity of expression, knowledge of modern teaching techniques and methods, use of teaching aids and a versatile personality.

It seems that the author agrees with the need for evaluation of the teachers' performance and obviously so because in all works such evaluation is common, with reference to duties expected of a person. However, the author seems to have a biased view about those going in for such evaluation.

It must be pointed out that the course evaluation and the evaluation of performance of teachers are quite distinct and the methods for the same are also different. Such evaluation is in fact necessary for correcting undesirable tendencies of the teachers, which have been mentioned by the author in his article as also for improving their quality of performance.

I would request the experts in the field of teaching technology through your columns to suggest methodology for evaluation of performance of teachers which will overcome the apprehension of Mr. Srivastava, as also achieve its objective.

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Physician, Heal Thyself

Apropos Sunil Handa's communication on 'Motivating Students to Attend Classes' in the *University News* dated December 16, 1991 it may be pointed out that while the problem is well highlighted, the remedial measures suggested in one last para appear very half hearted. As teachers cannot escape self introspection and shifting the blame to the university climate would not do. After all who determines the university climate. It is basically the students, teachers and the non-teaching staff. The primary responsibility lies not even with the students but solely with the teachers. We are supposed to be the ideals for the new generation and if we are somewhere found lacking no one is to blame for that. We are after all paid for taking classes and even if the students do not turn up on a particular day it does not mean that we should follow their example by not coming in time in the classes on the next day. A sort of vicious circle is created by students not coming on a particular day and the teachers abstaining on some other day because of either personal work or some university/college work. Each one of us can have problems but then if we announce it in advance and we inform the students well in advance about our not being available on a particular day the behaviour of students may perhaps undergo a change. If we ourselves are not punctual how can we emphasise upon the students the need to be punctual in the classes. We must set example by our behaviour not through gospel. And then we have a responsibility to come well prepared. None of us or atleast most of us are not teaching anything new. We only tell them the printed word. Why should the students come if they feel that they could understand the same without coming to the class.

We have the responsibility to make our lecture and interaction interesting and useful. Examples can be multiplied where the students have been regular in attending a particular class despite their being no requirement of attendance. Why not each one of us can do the same thing?

We have been organizing the training programmes for the young and not so young university and college teachers. When I meet the colleagues on the first day I always tell them that the need to be punctual and regular can hardly be over-emphasized as far as teachers are concerned. We are supposed to rush for the classes as soon as there is a call. While this has an impact in the first week the experience in the subsequent weeks is not very satisfying. We also have the requirement of recording the attendance if not for anything else for making them the payment of the daily allowance to which they are entitled on the day of their attendance. Recently a case was discovered where a senior teacher attending a Subject Refresher Course was found absent with his attendance being marked daily by his colleagues. A serious view was taken and a number of corrective measures initiated. The case is cited here simply to highlight if this is the ideal which the new generation is to follow the only God can save the future generations. We mobilize opinion and adopt agitational methods sometimes to get better pay scales and better facilities at work. Why cannot we do the same for faithful discharge of our duty, for the revision and updating of the syllabi and against few rowdies among the students if they indulge in indiscipline and vitiate the entire atmosphere. We can in that way surely contribute to creating the better climate on the campus.

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Director,
Academic Staff College,
A.M.U., Aligarh.

On Student Residence

K. Venkata Reddy's article "The Nucleus of University Life" (*University News*, 26th August 1991) focuses on the visibility and importance of all round development of human being. Reddy points out one aspect that contributes to such all round development is our on campus living. I continue to wonder about the usage of word "hostel". One meaning presented in *Webster's New World Dictionary* for Hostel is one of a series of supervised shelters. It is hard to accept this meaning due to the interaction that takes place in the hostel environment on the college campuses. Reddy has very well pointed out that "hostel environment must not be regarded as mere practical convenience".

I would like to point out how the present Residence Halls on U.S. campuses were called as Dormitories, which literally meant place for "sleeping". Housing and student affairs professionals worked hard to change this misconception in the minds of students, parents, academicians, and other administrators that University Housing is not a dormitory but a residence hall because of opportunities to grow through individual interactions, programs, advising, and counselling, which is essence lead to leadership development. The concept of student affairs and student development may still be in its infant stage in India, but the academicians who are in-charge of hostels must put forth their efforts to change the image of the hostel into residence life. This involves not just a change in name, but a change in attitude as well. Residence Hall is a good place to start our younger generation focus their unused energy in creative thinking and building strong leadership skills through programming and working with the university community.

Reddy has well pointed out that "there are students who don't make a mark in an academic work", but the same student may be an asset to society by being a good leader, and a responsible adult. Our educational institutions are not just degree granting factories, but are functional institutions which are responsible for molding worthwhile citizens. It is time for our academicians and administrators to start looking at different models of student affairs in the U.S. and other countries and borrow good aspects from these models to cause a change in building a successful on campus residential life. Our aim and ultimate goal of university education must be the "student". Both formal and informal education should enable the student to meet the challenges of life confidently and successfully. Residence Hall is one such place to start in this direction.

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CALENDAR OF EVENTS

Proposed Date of the Event	Title	Objective	Name of the Organising Department	Name of the Organising Secretary/ Officer to be Contacted
February 18-20, 1992	Programme on Financial Planning & Control for Non Profit Making & Service Organisations at Madras	The programme aims at discussing added dimension in the Financial Management as applied to the present day decision making process	The Institute of Costs & Works Accountants of India	Mrs. Rama Kashinath, Joint Director((PD & P) The Institute of Costs & Works Accoutants of India, 3, Institutional Area, Lodi Road, New Delhi-110 003
March 9-15, 1992	International Conference on Experiential Learning	To promote experiential learning and other scientific, educational, cultural and related activities and spiritual pursuits	Indian Society for Experiential Learning, Pondicherry	Prof. S. Mohan, Prof. of Physics, Pondicherry University, Pondicherry
April 8-10, 1992	Programme on Profit Planning: Cost, Pricing & Liquidity Management at Ahmedabad	To understand cost-price-profit relationship & its relavance in corporate management intending to survive & prosper and also to highlight planning & management area in all its complexities	The Institute of Costs & Works Accountants of India	Mrs. Rama Kashinath, Joint Directoe (PD & P) The Institute of Costs & Works Accountants of India, 3, Institutional Area, Lodi Road, New Delhi - 110 003
May 12-14, 1992	Programme on Management of Energy, System for its Monitoring at Shimla	To equip the managers in industries to frame strategies for energy planning & control & to guide the Govt. representatives to frame National Policy for Energy Conservation & Management	-do-	-do-
August 11-16, 1992	8th World Congress for Rural Sociology	Theme : Rural Society in the Changing World Order	International Rural Sociology Association, USA	The Pennsylvania State University, 306, Agricultural Administration Building, University Park, Pennsylvania - 16802
August 16-19, 1992	55th Annual Meeting of the Rural Sociological Society	Theme : Rurality and the Global Environment	Rural Sociological Society, USA	-do-
August 26-28, 1992	Second International ISKO Conference on Cognitive Paradigms in Knowledge Organisation	To provide a forum for scholars working in the field of knowledge organisation	Madras Library Association in collaboration with Sarada Ranganathan Endowment for Library Science and University of Madras	Mr. S. N. Kumar Conference Secretariat, 5, Sivaganga Road, Madras-600 034
October 26-31, 1992	Third IAU Mid-Term Conference to be held at Alexandria, Egypt	Theme:Adaptation of University Management Structures and Strategies for New Requirement	International Association of Universities (IAU), France	Dr Franz Eberhard, Secretary General, International Association of Universities, 1, rue Miollis 75732 Paris Cedex 15 France

A.I.U. PUBLICATIONS

		Rs.
1.	Universities Handbook	1000.00
2.	Equivalence of Foreign Degrees	180.00
3.	Handbook of Engineering Education	In Progress
4.	Handbook of Medical Education-1990	50.00
5.	Handbook of Management Education-1989	30.00
6.	Handbook of Agricultural Education-1986	40.00
7.	Handbook of Distance Education	In Progress
8.	Scholarships for Study Abroad and at Home	NET - 10.00
9.	Directory of Distance Education Institutions – Part I: India	225.00
10.	Directory of Distance Education Insitutions – Part II : Pakistan & Srilanka	
11.	Association of Indian Universities-1925-75	50.00
12.	Association of Indian Universities-1925-85	100.00
13.	New Technologies in Higher Education (HB)	120.00
	(PB)	80.00
14.	Decentralisation of Higher Education System	
15	Graduate Unemployment in India	150.00
16.	Higher Education in India: Retrospect and Prospect	250.00
17.	Studies in Distance Education	20.00
18.	Directory of Women's Studies in India	120.00
19.	Universities and Research	45.00
20.	University Finance - A Statistical Profile II	75.00
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22.	Elite in the Making	40.00
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24.	Educational Statistics at a Glance	75.00
25.	Education and Economic Development	23.00
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2. Bhanusree, Bommireddipalli Venkata Sakuntala. **Contemporary humanism and early Buddhism: A comparative study.** Andhra.

3. Kotzamanis, Linda. **A philosophical interpretation of the nature and socio-ethical implications of psychiatric idealogy.** Venkateswara. Prof C Ramaiah, Department of Philosophy, Sri Venkateswara University College, Tirupati.

4. Ratnam, Ram Kumar. **The concept of duhkha in Indian philosophy with special reference to early Buddhism.** Venkateswara. Prof C Ramaiah, Department of Philosophy, Sri Venkateswara University College, Tirupati.

5. Usha Rani, Andukuri. **Modern Indian conception of education with reference to Swami Vivekananda and Mahatma Gandhi.** Andhra.

Religion

1. Chaechean, Phramaha Sanggom. **An analytical study of the Kankhavitarani.** Delhi.

Fine Arts

Music

1. Bakre, Sushama Chandrakant. **Gharana of Khyal Gayaki and Jaipur Gharana.** Baroda.

2. Goswami, Nila. **Nandantattvikar drishtite Rabindranath-o-Tanr samakalin gitikargan.** Rabindra Bharati.

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7. Vuppuluri, **Development of audio visual aids for improving music education and to study their effect.** Baroda.

Drama

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Language & Literature

English

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He held his first course in the history of logic at the University of Bucharest in 1947-1948, which led to the publication in Bucharest of the first edition of "*Istoria Logicii*" by Editura Didactica si Pedagogica in 1969.

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1.3 Master of Technology in Computer Science: Duration : 2 years : Stipend : Rs.1800/- or Rs.2100/-: Contigency grant : Rs.3000/-: Eligibility: Master's degree in Mathematics/Statistics/Physics/Electronic Sciences/Computer Science/MBA/MCA or Bachelor's degree in Engineering/Technology or equivalent qualification e.g.AMIE , GRAD-IETE and knowledge of Mathematics at the graduate level.

1.4 Master of Technology in Quality, Reliability and Operations Research:Duration :2 years:Stipend:Rs.1800/-or 2100/-:Contingency grant: Rs. 3000/-:Eligibility :Master's degree in statistics with knowledge of SQC and or bachelor's degree in Engineering/ Technology or equivalent qualification and knowledge of relevant topics of Physics, Chemistry and Mathematics.

2. Junior Research Fellowships :Fellowship : Rs. 1800/- :Contingency grant:Rs.2500 + HRA as per rules. The institute conducts research in many areas of **Mathematics, Statistics** and **Economics** and offers fellowships for Research Courses in these subjects leading to registration for Ph.D. degree of the Institute. The institute also offers fellowships in other research areas.

2.1 Research Courses leading to Registration for the Ph.D. degree:Eligibility : (1)A good M.A./M.Sc degree in relevant subject,or (ii)outstanding mathematical maturity with B.A./B.Sc degree with Mathematics or Statistics or Economics as the main subject.

An M.A./M.Sc in Sociology with Mathematics/Statistics and Economics at least at B.A./B.Sc (Pass) may apply for research courses in the area of Economics.

2.2 Fellowships in other research areas

- **a. Computer Science:** Eligibility :A good M.Sc/equivalent in Physics/ Mathematics/Statistics/Electronic Sciences/Computer Science/or M.E./equivalent in Electronics/Computer Science/Electrical Engineering.
- **b. Electronic Communication Sciences:**Eligibility :A good M.Sc /equivalent in Physics (spl.in Electronics.) / Mathematics /Statistics/ Electronic Sciences/ Computer Science/Natural Language Processing or (ii)M.Tech /equivalent in Electronics / Telecommunication/ Computer Science/ Radio Physics.
- **c. Theoretical Computer Science:** Eligibility: (i) A good M.A./M.Sc in Mathematics/Statistics with adequate knowledge of Computer Science or (ii) M.Sc./equivalent in Computer Science with adequate knowledge of Mathematics or (iii) M.Tech in Computer Science.
- **d. Fluid Mechanics /Applied Mathematics : Eligibility** : (i) A good M.Sc./equivalent in Physics /Mathematics/Statistics/Applied Mathematics or (ii) M.E. or equivalent in Mechanical Engineering.
- **e. Theoretical Physics** :Eligibility : A good M.Sc./equivalent in Physics/Mathematics/Statistics.
- **f. Earth Sciences** :Eligibility : A good MSc./equivalent in Geology.
- **g. Chemistry** :Eligibility : (i) A good M.Sc./equivalent in Chemistry(spl.Physical Chemistry) or (ii)M.Sc. (Ag)/equivalent in Soil Science/Agricultural Chemistry.
- **h. Zoology /Physiology/Biochemistry:**Eligibility: A good M.Sc. in Zoology (spl.Fishery Science)/Physiology/(spl.Nutrition/Microbiology)/Biochemistry(spl.Nutrition).

3.Specialist Development Programme in SQC & OR : Duration :2 years : Fellowship : Rs.1800-2100 + HRA; Contingency grant : Rs.2500/-; Eligibility : A good M.Sc./equivalent or B.E./equivalent with diploma in SQC & OR of ISI or one year's PG- training in SQC & OR in industry with adequate applied work.

4. Certificate/Diploma Course on Operation and Programming of Automatic Data Processing Equipment : Duration : 1 year for Certificate and additional 1 year for Diploma if one attains a specified standard in the Certificate Course. Tuition fee : R.200/-per year , no stipend. Eligibility :(i)Age below 25 years on 1.4.92. (ii) Bachelor's degree or equivalent with Mathematics as a subject at higher secondary (10 + 2) level and (iii) typing speed of 25 words per minute.

All courses/fellowships are offered in Calcutta. Courses 1.2 and 2.1 are offered in Delhi and Bangalore. For courses 1.3,1.4 and 2,ISI written tests and interviews are compulsory even for candidates with valid GATE or UGC/CSIR test scores.

Hostel facilities are available. Selection tests for the courses/fellowships will be conducted at a number of centres. Candidates who have completed or are due to complete the qualifying examination before **JULY 1, 1992**may also apply. This date may be relaxed by the institute in case of candidates with outstanding academic record and performance in the selection tests and interviews. Prospectus and application form can be obtained from the **Dean of Studies , Indian Statistical Institute, 203 Barrackpore Trunk Road, Calcutta 700035**,by paying an amount of Rs.40/-by cash (between 11.00 a.m. and 2.00 p.m.on working days from Monday to Friday) or by bank draft in favour of "**Indian Statistical Institute**"payable at Calcutta (proper). Postal orders, money orders and cheques will not be accepted.

Last date for receiving requests for application forms: **2 March 1992**
Last date for receiving completed application forms : **23 March 1992**
Date of selection tests : **SUNDAY, 10 May 1992**
Tentative dates of interviews : **23 June to 2 July 1992**

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Editor :
SUTINDER SINGH

Pricing Higher Education
The Case Study of Maharashtra

M.R.Kurup*
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Introduction

The question of pricing general higher education has become relevant for all the third world countries, India being no exception. In India, it is more so due to the vast size of population, highly unequal distribution of income, poverty and unemployment. With withering away of private sources of finance, it is the government which is called upon to bear the major burden over the past. The degree of subsidization of higher education today is very high.

The rationale for subsidy to higher education now requires evaluation, compared to the past when its magnitude was small or in the initial stages of introduction. Slower economic growth and tighter budgetary constraints imply that spending on education faces greater competition from other claims. It is also contended that uniformly low prices for social services mean that expensive services like higher education are much more subsidized than elementary education. Yet the poorest people often have the least access to these services for a variety of reasons, including high private cost of consumption and a built-in bias when services are rationed. Further the limited resources devoted to social services are suboptimally used in the absence of an appropriate pricing mechanism to impose discipline on users and providers. It is suggested that traditional pricing structure of social services should be replaced by a new model of discriminatory prices based on price and income elasticities of demand. However, research is not carried out on the feasibility of these policies and their implications for equity, efficiency gain and the cost structure.

In this study we have proposed a discriminatory pricing policy for general higher education which would act as an antidote for the predominant problem of resource shortage and its repercussions on quality and quantity. This policy would lead to generation of adequate financial resources inevitable for qualitative upgradation and quantitative expansion through tapping the potential of those sections of the population which have the ability to pay higher price. At the same time it ought to exempt socio-economically poor students from paying higher fees on welfare grounds. Today, resource constraint appears to have killed innovation and initiative at institutional level. Creation of internal resources would enable institutions to reduce dependence on the government and thereby free them from unacademic and bureaucratic controls. A policy of discriminatory pricing is already in vogue in various public utility services like health care and there is no reason why such a policy should not be experimented in the field of general higher education too. Even at school level in the private sector an element of this policy is evident in as much as the schools located in upper middle class localities charge much higher fees than those situated in lower middle class areas.

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In this study we have examined a number of closely related aspects of pricing higher education such as the magnitude of resource crunch, its impact on quantity and quality, forecasts of demand and supply, the extent of inequality in the distribution of seats among different income groups and the various estimates of costs vis-a-vis different regions, faculties, junior and degree levels and the age of the college, with a view to propose a sound and viable discriminatory pricing policy.

Higher Education Scenario

The methodology discussed in Chapter-2 of the study, is an empirical sample study of Arts-Science and Commerce colleges in Maharashtra. Since over eighty percent of the students in higher education belong to this stream, the study is important. Questionnaires were supplemented by personal interviews. We received 42 responses from Principals to form the main sample unit. Information from 705 students of 28 colleges from different regions formed a subsidiary sample. We formed five hypotheses in this context : (a) that the resource crunch faced by institutions of general higher education is very high, (b) that the resource crunch adversely affects the quantity and quality of higher education, (c) that the current as well as future levels of demand and supply show an increasing trend over time, (d) that existing distribution of educational seats is highly inequitable across different income groups, and (e) that the cost of higher education is very high compared to the fees. Each of these hypotheses is tested on the basis of the data and presented in Chapters 3 to 7 respectively.

The rate of growth of enrolment for the country went up from 2.9 percent in 1984-85 to 3.5 percent in 1988-89; whereas in Maharashtra the rate declined from 8.2 percent in 1984-85 to 4.9 percent 1988-89, which undoubtedly is greater than the all-India average. The deceleration largely is the result of a shift in the grant-in-aid pattern followed in the State since 1983. Yet, in absolute terms, the number of institutions and students increased many fold during the last forty years. The increase in the demand for higher education is due to a number of factors. Increasing demand for educated manpower, the opening the doors of colleges for all sections of the society after Independence, liberal government subsidy, natural growth due to expansion of the base of education at Primary-Secondary level, increasing awareness for female education, higher pass percentages at the qualifying examinations like the S.S.C. consideration of education as an income related investment, improvement in the social standing for graduates, demonstration effect, lack of job opportunity after school education, rapid urbanization, industrialization and technological changes and the need for modernization, are some of the factors influencing the demand for higher education. The resource availability is not consistent with the increasing demand for higher education.

Extent of Resource Crunch

We have worked out four measures of resource crunch. They are (i) the percentage of total deficits to total expenditure, (ii) per student deficit, (iii) percentage of capital expenditure to total expenditure, and (iv) relative shares of fees, voluntary contributions, management and state government financing. These measures have been computed for the State and its three regions – Western Maharashtra, Marathwada and Vidarbha. The estimates have also been undertaken for colleges with one, two and three faculties, Junior and Degree Sections, and in accordance with the year of establishment. We found, among others, that the degree of resource scarcity is very acute, both in absolute and relative terms, and that compared to Western Maharashtra, the extent is greater in Marathwada and Vidarbha. The three-faculty colleges face a much severe resource bottleneck than two or one faculty colleges, just as the older colleges vis-a-vis new ones.

For the State, deficit as a percentage of total recurring expenditure works out to as high as 84.81 percent since this deficit constitutes the financing by government and the private management, depending upon the status of aid. Our second index amounts to Rs.1,463.38 per student indicating that the government has to spend this amount on every student per year just for routine running of the college. Considering very low quality and poor nexus of higher education with job market or development of human resources, the high and continuously increasing subsidization is tantamount to an enormous waste of social resources. Our third index stood at 0.0768. It can be imagined that when the total receipts are not adequate to finance recurring expenditure, the extent of capital expenditure is bound to be very meagre and negligible which definitely has serious qualitative and quantitative effects. Regarding the relative shares of different sources of funds (the fourth index), we found that the percentage contributions were State government 78.23, fees 11.40, UGC 3.37, Management 5.96, Endowments 0.01, Loans 0.09, Miscellaneous 1.01.

Quantity and Quality

An attempt has been made to trace the effect of resource scarcity on quantitative expansion as well as qualitative improvement. We looked at the quantitative growth since 1961 till 1987-88 by computing the compound growth rates of gross enrolment ratio (GER) and the incremental enrolment ratio (IER) for the State, and the three regions and came across a worsening impact of the shortage of resources on quantitative expansion of higher education. The lukewarm supply response to rising demand in the State as well as in the Western Maharashtra region which accounts for nearly 2/3rd of the enrolment in the State, has been the manifestation of resource scarcity. This is particularly so with the withering away of private endowments, donations and loans. Fees have also proved to be a minor and declining source of funds. Since there are competing claims for government funds from an alarmingly increasing array of public projects, the supply of seats for higher education becomes inelastic resulting in suppression of demand mainly for the socio-economically backward aspirants, further aggravating the inequity in the distribution of educational seats. In Marathwada and Vidarbha, the resource scarcity not only afflicts the institutions but also the seekers of higher education. In spite of large proportion of students receiving freeships in every institution in these regions, education still remains beyond the reach of the masses. Since education involves investment of money, time and energy, a mere provision of freeship is not sufficient to enable a student to go for education.

The IER and the rate of growth of GER ought to have increased with economic prosperity and higher growth rate of relevant population. Instead what we find is a substantial decline in both, which put in juxtaposition with increasing enrolment per institution clearly proves that the problem is on the supply side. There is also a clear evidence of excess demand to the extent of 3.59 -lakh in 1981 in the State.

For ascertaining the impact of resource crunch on quality and its determinants, we made use of the multiple regression technique. We constructed two indices for assessing quality, the academic and the cocurricular achievements of the institution. The analyses revealed that variables such as student-teacher ratio, unit cost, teacher cost per unit and the composite index of facilities are important determinants of quality. The cocurricular achievements were found to be very low, perhaps, due to an apathy and indifference towards them by the parents, managements and shortage of necessary infrastructure and equipments.

Forecasts of Demand and Supply

Since we are not merely concerned with what is the present scenario, an attempt is made to forecast the demand for and supply of higher education for the years 1991 and 2001 with the hope that appropriate measures will be taken by the government. The future level of demand for higher education would be mainly determined by level of economic development, the size of relevant population, the levels of GER and IER and the changes in social and political spheres having a bearing on education policy. The forecasts of supply have been made on the basis of trends in the rate of growth of the number of institutions and of the average enrolment per institution during the last three decades. We obtained four alternative estimates of future demand based on four different assumptions, three of these estimates are close to each other, strengthening their validity. The same holds good for the forecast of supply. The forecasts indicate a widening supply deficiency in future and an official apathy to provide for additional supply.

In spite of higher rate of growth of the relevant population and the per capita income during 1970s as compared to 1960s, the growth of higher education is more impressive during 1960s than in 1970s. This appears to be due to rising cost in relation to fees, restrictions on opening of new colleges, etc. As the intake capacity in new colleges is likely to be low, a large number of institutions are needed to take care of the immediate shortages. The restrictions on new institutions are likely to come in the way of the poor than the rich resulting in further accentuating inequality. And, the inter-regional analysis has indicated a decline in the growth rate of enrolment between 1961 and 1981 in all regions. The average enrolment per institution rose at an increasing rate in Western Maharashtra. In Marathwada and Vidarbha, the enrolment rose during 1960s but fell during the 1970s.

Inequality

Apart from looking at the income distribution of students, we examined, the inequality in an unconventional manner. We tried to establish the relationship between the level of income on the one hand and curricular and co-curricular achievements, the status of students as earner-learner and the attendance in coaching classes for the State as a whole and different regions and faculties, on the other. We found that academic achievement is positively related to the level of income. Coaching class participation considered as supporting device played an important role in the nexus between education and income. Similarly, freeship has an equalising role and that the proportion of students receiving freeship is quite high for low income groups especially in Marathwada and Vidarbha. The level of income has neutral effect on co-curricular participation meant for personality development. The proportion of earner-learner has decreased with increase in income.

In Maharashtra, the percentage of students belonging to the income group 11 is 31.35 followed by 8.37 to

12, 7.38 to 13, 17.45 to 14, 23.12 to 15 and 12.34 to 16. The State patronage appears to have induced higher education amongst the lower income groups, though the distribution of seats is quite asymmetrical. Since the poor and the middle income groups do not have the necessary ability to bear the burden of professional education, unlike the rich, they are forced to send their children to general higher education.

We have defined achievers as those who have obtained 60 percent marks and above at the previous HSC examinations, and the rest are treated as non-achievers. For the State as a whole, achievers accounted for 21.72 percent in income group 11, followed by 25.42 in 12, 26.92 in 13, 36.59 in 14, 53.99 in 15 and 68.97 in 16. It implies that the proportion of non-achievers declined progressively from 78.28 percent in 11 to 31.03 in 16. The achiever-non-achiever comparison clearly brings out the stark reality of a high degree of inequality in higher education. The pattern remained the same for all regions.

Cost Analysis

We have computed institutional and private costs of general higher education in Maharashtra on the basis of data obtained. The study of institutional cost is important as it helps to know the cost of creation of seats and the cost of operation of the seats in educational institutions. We have examined the composition of private cost, its burden on different income groups and the proportion of this cost covered by subsidies. We have tried to derive cost functions for higher educational services in the State as well as for the three regions by using statistical techniques, including multiple regression.

For the State, the unit cost of education works out to Rs. 1,718.57 with the teacher cost per student coming to Rs. 1,109.31. The non-teaching cost thus works out to Rs. 609.26 which includes the cost of non-teachig staff.

An attempt has also been made to measure the private cost of education for families at various levels of income. We have estimated the monthly expenditure incurred on textbooks, note-books, newspapers, journals, hobbies, games, music, canteen, restaurants, transport, coaching classes, etc. Various family parameters including earner-learner status of students were obtained to work out the opportunity cost of education.

We also found that majority of the students are not happy with the present system of general higher education and would prefer to pay higher fees provided education is made more relevant.

Discriminatory Pricing

We have also surveyed (Chapter 8) some recent controversies in the field of social sector pricing policy. We have proposed a discriminatory pricing policy for general higher education as a remedy for the prevailing malady of resource crunch having serious qualitative and quantitative implications. An attempt is made here to measure the impact of this policy on equity, its administrative and political feasibility, cost structure of provision of higher education and developing operationally oriented rules of thumb regarding what proportion of cost to be recovered through price and so on.

Our results show that when demand is more elastic and initial excess demand is smaller, the scope for increasing user charges is more limited. But they also show that even under most conservative assumptions, it is feasible to raise fees from Rs. 450 to Rs. 1,250. The adverse effect on equity can be mitigated by exempting about 81,500 students currently enrolled from the fee increase. This policy would allow the enrolment to expand from 5.15 lakhs to 9.65 lakhs with less public spending than before. This increase in fees can be recommended as a first step in the right direction. We have also computed the upper bound estimates in order to show the likely order of magnitude of impact of the policy.

It should be emphasized that the quantitative results are merely estimates. They note the impact of a contemplated policy but do not substitute for judgment. The policy maker still has to evaluate the political acceptability and practical feasibility of the policy. But the quantitative estimates make his task easier because they help him to concentrate on the relevant trade offs. If efficiency and equity gains from increasing user charges are large enough, the policy maker might consider it worthwhile to execute the rise even though the policy could be politically unpalatable.

A deferred payment system is advocated so that the beneficiaries of education will pay for it when they are in a position to do so. Loan schemes, commercial or income related, with an insurance cover to hedge risk, could be introduced at the institutional or State level. We have discussed the pros and cons of some of these schemes which will do away with resource shortage and ensure equity, efficiency and accountability.

We feel that the future of higher education depends on locating real, regular and direct sources of finance as the government and the indirect private sources are found to be wanting to meet the dynamically expanding need for good and relevant education.

Teaching English Language and Literature at the University Level : Focus on Functions

Shivendra K. Verma*

Language is central to the whole process of education and is the principal means of cultural transmission. Most of the students who fail in the present educational system fail because they do not have adequate proficiency in language. They do not know how to use and communicate the knowledge that they have. What they need is the ability to use language to perform a variety of roles and tasks. In a multilingual society, their success depends to a very great extent on their ability to switch their linguistic gears as many times as they play different personal, interpersonal, and institutional roles in different settings. In order to be able to manipulate their linguistic gears efficiently, they have to acquire different levels of proficiency in the language they use.

The assignment of two important functions to the dominant state language, that is, making it function as the official state language and as the language of instruction, examination and interview upto the highest levels in the state means function- reduction in the case of English and hence the need for reorganizing the teaching and learning of English at the tertiary level in terms of its new functions. Some of the important functions are given below[1]:

i) At the national and international levels, English continues to serve as our 'Window on the World' and as our link with the outside world. It will continue to be a source language, providing access to the vast and growing knowledge in the fields of science, technology, medicine, social sciences, management, law and also humanitities. Our scientists, technologists, engineers, doctors, economists, and other researchers must be able not only to have access to professional literature in English but also be able to contribute to it and to interact with fellow researchers in the other parts of the world. This has become very important today because English is the main language of international communication.

ii) As an associate official language, as the official link between the Central Government and the Governments of the non-Hindi-speaking States, as the language favoured by all-India institutions, all-India seminars, workshops, conferences, the legal and banking systems, trade, commerce, and defence, English has important international functions.

iii) It is an important promoter of social mobility for ordinary people; it is also a promoter of geographical mobility. It has been playing an important role in bringing about national unity and integration.

iv) In certain States and certain disciplines English continues to be the main or associate medium of instruction and examination at the tertiary level.

v) Where the medium of instruction is some language other than English, our students and researchers find English useful as a 'library language', and a 'language of wider communication'.

vi) At the individual level (the level of educated bilinguals), English continues to be 'the language of opportunity', 'the language of development', and 'the language of upward socio-economic mobility'. Any individual seeking socio-economic advancement at the national level will find ability in English an asset. Jobs that require inter-state movements demand a fairly high level of competence in general and technical English.

It is important that we should be able to identify the English requirement of various groups of students precisely, and try to provide for each such group the pattern of courses which will be relevant to the needs of learners. This is important because not all students will need English to the same level of competence. It is also important that special opportunities are made available to help the weaker sections of our society to acquire an adequate competence in English, so that they do not remain for ever disadvantaged in areas of English-based higher education and in terms of upward social mobility. We must take steps to produce methods and materials designed to help students coming from tribal, rural, and other neglected sections of society who, though gifted

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and intelligent, feel alienated and handicapped at institutions of higher learning because they have not had the opportunity of acquiring English as a second language and hence find themselves incapable of using English as a 'library language'. Here is a great challenge for our educational institutions: they must devise tailor-made programmes in English as an instrument of education.

What we have said is that English performs a set of very important communicative functions in our multilingual setting. This should not make us believe that the Indian languages are meant for a secondary role and cannot function effectively as vehicles of scientific and technological knowledge. We are of the view that no language is inherently incapable of conveying any ideas – be they sublime or mundane, metaphysical or technological. As a free nation we are committed to the modernization of Indian languages so that they may serve all those functions for which we now use English. In order to do this, we should use English as a 'source' language. The position that we have taken up in this paper is that English and major Indian languages can and should co-exist peacefully and play their roles effectively. These roles will have to be redefined periodically in the light of the changes in the socio-linguistic needs of our country.

In order to achieve the objectives of teaching and learning English listed above, it is essential to design a variety of courses tailored to the needs of consumers; produce new materials (including audio and video materials); introduce function-based training programmes; bring in changes in our attitude to learners and their language, the system of evaluation and methodology of language-teaching. These courses, materials, and methodologies may have to be modified to meet local needs. The ultimate objective of all these activities should be to develop human resources – to enable teachers and learners to play their role effectively, helping learners acquire not only context-restricted and syllabus-bound competence in handling English but to attain that level of competence which will enable them to use it effectively according to the roles that they may have to play in a variety of situations.

The teaching of English as a second language in India has been less successful than it might as a result of the restricted variety of linguistic contexts with which students are provided. They can produce formal essays on literary topics but find themselves ill-equipped for using English for transactional purposes. Their main problem is: what to say when and how in an Indian setting? Their proficiency in English is restricted since their experience of English has been confined to only a very small set of social domains, a very few role-relationships and a limited number of speech functions. They have been exposed to 'classroom English' or 'textbook English'. What we must keep in mind as language teachers in that exposure to a rich variety of linguistic and socio-cultural material with its focus on 'what to say when and how' is of paramount importance in second language learning[2].

What we are trying to suggest is that we should organize the teaching of English, or, for that matter, any other language, keeping in view its roles and functions, for teaching a second or foreign language means preparing learners to perform a specific set of tasks in a new language used in a new socio-cultural context.

We are not in favour of drawing an artificial line marking off literature from language, for we believe that language draws its life-giving nourishment from literature and literature uses language as its vehicle. The way is therefore open for a realistic reconsideration of the role of literature as a vehicle for language teaching. Should literature be in or out? This is not a real question. The real questions are: What kind of literature do our learners need at different levels? What quantum of literature can and should be put into their syllabi? How should we help learners use literature for getting not only 'delight' in Dryden's sense but also for sharpening their language skills? In the multilingual setting of India our strength lies in interacting with English literature in terms of our experience of literature in our own languages and using English to build bridges between cultures. The reading of literary texts in the original can be an exciting experience and a powerful stimulus to further effort, provided learners have the linguistic competence to capture 'the real thing' which always lies deeply embedded in layers of language."Language and literature", according to Sinclair, should be related very closely to each other in an English curriculum but essentially kept distinct. The distinctiveness should not be a matter of embarrassment but should be a recognition of the complementary nature of the disciplines and exploited in a broad concept of English studies. Wherever the disciplines overlap, both a literary and a linguistic input are valuable and the teaching can profit from each of these, and can attempt to integrate the two (Sinclair, 1986:91)[3]. It may be useful to explore the possibility of organising a new programme in English with the concept of a 'core course' at different levels reinforced by bunches of inter-related, need-based courses. The length of this programme (i.e. an intensive course in English) may vary from two to four years.[4]

The new UGC curriculum (1989)[5] originates from the concept of education as an instrument of human resource development. With this concept in mind, an attempt has been made in the curriculum to cater for the needs of the learner on the one hand and the demands of the society on the other. It is towards this end that the course content at both the undergraduate and postgraduate levels has been designed.

In order to appreciate the new curriculum for M.A. in English, it is necessary to understand the background against which it was prepared. If education was to be viewed as an instrument of human resource development, then, we have to find an answer to the question: why should an M.A. programme in English be viewed as a programme in English literature (and that too, chiefly British literature) only. It was felt that we should introduce instead a multiplicity of courses in British Literature, American Literature, Australian Literature, Comparative Literature, new literatures in English, and also courses in English linguistics and English teaching. While there was a broad agreement on this view, it was felt nonetheless that the time was not yet ripe for such diversification – chiefly because we do not have the human resources necessary to implement it. It was agreed therefore that we ought, first of all, to develop the necessary expertise and create essential facilities (such as well-equipped libraries) before a radical change like that can be brought about. One of the messages for us is: we should impress upon the UGC and the Government of India the need for setting a National Resource Centre for the study of literatures in English.

As a logical development of the above thinking, it was considered necessary to make provision in the new curriculum for specialization in a variety of areas. To this end, several modules (here called "groups") of elective courses, such as American Literature, Commonwealth Literature, Indian Literatures in English and in English Translations, Comparative Literature, Creative Writing, Modern English Language, and English Language Teaching, have been proposed (in addition to a compulsory core of six papers). Each group consists of 4 to 5 papers and a student is required to choose all his elective papers from one group only. Thus if a student chooses the group called American Literature, for example, all his elective papers must be from that group only, so that, with further specialization in the same area, he can be a potential teacher of a future programme of M.A. in American Literature.

The new curriculum recommends a compulsory core of six papers (of which four are on English literature, one on literary criticism, and one on English language) and an elective component of two to four papers, all chosen from one group. While the need was felt for more than one compulsory paper on English language, it was realized nonetheless that there were not enough teachers of English language at most universities at present.

The requirement that every student of M.A. in English will study at least one paper on English language should be taken as a recognition of the need of the learner and the society. It is common knowledge that a large number of those who successfully complete M.A. in English become teachers of English at the undergraduate level. The knowledge of the English language that they acquire will be put to direct use in their teaching. Keeping such a point of view in mind, the compulsory language paper in the new M.A. programme has been designed as a paper with its focus on the structure of modern English.

The new curriculum differs from the existing ones in another respect: there is provision in most of its text-based literature papers for both detailed and non-detailed study, thus striking a balance between range and depth.

The new M.A. programme in English is a departure from the existing M.A. programmes in respect of its philosophy, purpose, course content and focus, approach to teaching and learning, and its bearing on human resource development. Among its chief advantages are that it will produce better teachers of English at the undergraduate level, and a class of specialists at the postgraduate level who can design and teach courses leading eventually to diverse M.A. degrees in English.

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EVALUATION AND FEEDBACK

S.Abdul Kareem*

No aspect of education has raised more issues than modes of evaluation practised today and the gradual erosion of credibility has posed problems at the beginning of every academic year. As if evaluation is not enough, there is a plethora of applications for revaluation and with the resultant wide range of disparities in two or three assessments, this issue has made the academics sit up in the wake of formidable protests from the student community. The UGC which is entrusted with the responsibility of maintaining and coordinating academic standards has all along been insisting upon a modicum of reforms with a view to improving the reliability, validity and objectivity of evaluation so as to achieve a closer integration of teaching, learning and evaluation.

The first National Policy of Education (1968) has categorically outlined that a major goal of examination reforms is to improve the reliability, validity and objectivity by making evaluation continuous rather than certifying the quality of the candidate at a given moment of time. In the study taken up by Mr.M.Scriven in 1967, the two categories identified were formative and summative evaluation – the former had been brought into the centre stage as formative revaluation is conducted during the development or improvement of a programme or product or person while the latter is sought to be conducted after the completion of the course for the benefit of some external audience or decision maker. Moreover, the formative evaluation being on-going in nature can provide the feedback to users of a programme facilitating the reordering of strategies and priorities with suitable modifications. These two modes of evaluation may not differ on many scores except in the timing of evaluation which either is continuous or terminal end-of-the year/course affair.

The system of examination prevalent in our institutions is a legacy of the British. The setting up of the three universities at Madras, Bombay and Calcutta in 1857 in the wake of Mr.Wood's despatch of 1854, institutionalised the examination system with rigid formalism in India though England dispensed with the system in 1858 along with affiliation. The British masters continued the practice of dispensing government grants based on examination results – "payment by results" – so much so that examinations became more formidable and implementing agencies made it corrupt with nefarious practices in the examination halls so as to become eligible for grants. Examinations leading to certification of quality further assumed importance as they established linkages with jobs. The British masters distrusted the internal assessment and insisted upon the external category coming at the end-of-the-year. When Lahore University took to internal testing, the British declared that Lahore graduates should not become judges.

Free India experimented with the American system of semesterization and the practice has produced limited acceptability and continued to remain in about 51 universities and mainly in the Regional Colleges of Engineering, the Indian Institutes of Technology, the Indian Institutes of Management and the central technological and agricultural universities. Canadian Universities faced the Hamletian dilemma: to examine or not to examine and sought to abolish them in 1967. A Committee of Parliamentarians suggested reduction of the dominance of external, end-of-the-year examinations with requisite reforms and adoption of a good system of evaluation. The cardinal principle in educational reform is that curriculum should decide the nature of evaluation. Curriculum has had a major shake-up only in 1975. Further there is the need to itemize the syllabus so as to demarcate the syllabus into well-defined units or areas of contents along with a topic-wise breakdown. The freedom of choice given to students need not be of the block type of asking them to answer any six out of twelve questions but of providing alternate questions in each unit of the syllabus. The Question Banks have to be developed diligently by each institution and the marathon efforts of the Association of Indian Universities (AIU), New Delhi, will give the guidelines and ready reference material for evaluation.

There are questions and questions. Unscrupulous authors of ready made guides are out to make the system still more dilute. The questions imaginatively framed should take a student beyond the level of the lowest cognitive strain. A majority of the questions do no more than necessitate a recall on the part of the students. This practice puts a premium on memorization. Questions

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should be so framed as to enable them to apply, analyze, synthesize and evaluate the body of facts or data. In our society of information explosion, today's fact is likely to become tomorrow's mis-information. Future learning must not merely be data collection, but manipulation of data and a readiness to discard it when needed and replace it. Thus the students must 'learn how to learn' (*Toffler*). As a pedagogical tool, the art of questioning is the most ancient method. The dialogues of Socrates and the dialectics of Plato are replete with questions. Socrates held that questions inculcate intellectual midwifery which bring ideas to birth. Besides the essay-type variety, there is the need to frame the multiple choice questions which stimulate and trigger the thinking process. After all, education should foster as much convergent thinking as divergent type necessitating not merely application and analysis but also synthesis and evaluation.

The Examination System in India has been superimposed by alien masters to produce the needs of the Empire, 'the graduated flunkeys'. The masters changed but the flunkeyism continued. It continued to contribute to 'underdevelopment'. The requirements of a developing economy and a democratic society should have evolved a system of learning which, in turn, would have generated its own system of learning and evaluation. But that was not to be. The uniformity in the system of evaluation mostly broadbased on external, end-of-the-year comprehensive essay-type examination was to answer to the needs of the broad homogeneity of requirements of the unproductive and non-competitive market. Hence there is the need to shift the emphasis from the teacher- oriented education to learner-oriented variety leading to not an active giver and passive receiver type but rather of a symbiotic relationship between the teacher and his wards. The new system should accommodate with discipline a degree of dissent which acts as a vehicle of change. All along, knowledge was considered to be a fixed entity and evaluation was mere transference of information. But now knowledge is dynamic and is in a perpetual state of flux. If the system of evaluation is to have any originality, dissent should be accorded a respectability.

The effectiveness of any teaching methodology and learning process is seen in the feedback through the system of evaluation. Evaluation is an integral process and it contributes as much to the learning process of a student as to the instructional process of the teacher. The strong and weak points of the instruction of the teacher and the strong and weak points of the students' learning are better appreciated through evaluation. Evaluation has to be an on-going and continuous process spread over the total span of instructional time. It has to be comprehensive in that not only the scholastic but also the non-scholastic aspects of the students are evaluated. While the external type of examination must have a degree of innovation, it has to be reinforced with internal assessment with increasing degree of acceptability. The internal assessment has had a major setback as there is the fear of deflation or inflation of marks with the result the prospective employers may not accept the validity of the same. Hence there is the compelling need to quantify the internal assessment process on well-defined principles obviating the interference of subjectivity. The difficulty in measuring merit necessitates the evolution of quantitative indicators of quality in terms of adequate data base in accumulated facts, the ability to look at the received knowledge critically in terms of internal consistencies and also the ability to develop analytical tools to identify, explain and predict the phenomena. Hence instead of classifying a student only into a nominal or ordinal scale, there is the end to outline the progress in the attainment level of students over a period of time. At the levels of higher education marks must be supplemented with remarks as outlined in the report touching upon the candidate's competence, performance and ability. This report must be given by the course teacher.

An unexamined life is not worth living. The same should be true of one's profession. Professionalism increases with the inculcation of a reflective, nay, an introspective consciousness which should compel each teacher to reorder priorities and modify strategies. There should be at each institute of repute a consortium of research and development in the field of evaluation. The faculty should forge a feeling of partnership with the alumni as when they are on the look out for new tools of assessing the learners, they are also assessing themselves. The students assess them too. Though better judges, the students cannot be the exclusive arbiters of teachers' destiny. Far from the symbiotic relationship, there is an air of mistrust and suspicion. There is a feeling of repulsion on the part of the faculty regarding evaluation. Most of them shy away from this task under one pretext or the other. It is imperative that in the ultimate analysis those who teach must be called upon and feel compelled to assess. The acceptability of the teacher's verdict by the alumni is the acid test of their integrity. Hence evaluation is not an external appendage but an integral part of the whole system of learning.

At professional levels, the seven point scale has been replaced by the nine point one as it is the case with prestigious IITs. They subscribe to the nine credit system, a credit being the grade above the 'pass'. Some believe in the system of weightages by correlation with class performance, number of teaching days and nature of question papers which is fraught with a degree of arbitrariness. The UGC has been recommending the grade system instead of the marking system in order to increase reliability and bring about comparability among different subjects. However much one may try to bar the doors against subjectivity, it may creep in through the key hole.

To lend credibility to the system of evaluation, every institution should aim at a minimum of reform. 'Abolition' of examinations may smack of desperate remedies. The malady needs reforms with innovations mooted from time to time. The following suggestions merit consideration :

i) Public examinations should be minimised;

ii) There is the need to decentralise the system to minimise its becoming rigid with formalism;

iii) Innovations in Question Bank and Item Writing must be attempted at the institutional level necessitating prevalidation and interaction among the faculty;

iv) Continuous institutional internal evaluation must be attempted to supplement the final examination;

v) Overall performance to be assessed on the basis of Cumulative Grade Point Average;

vi) Courses should be converted into 'modules' with the freedom given to clearing examination in parts leading to system of cumulative credits;

vii) There should be opportunities to improve the Grades;

viii) The system should permit of openness giving the students the right to scrutinise their scrips and its evaluation and compare it with others;

ix) The Semester System should be introduced to eliminate the elements of 'chance' and subjectivity with a view to lay de-emphasis on memorisation;

x) Teachers must be involved in syllabus-making, teaching and evaluation ;

xi) Periodic teacher orientation courses in examination reforms must be encouraged; and

xii) Review of the examination reforms must be taken up from time to time.

The agenda of reforms is bound to be endless. What is needed is the attitudinal change and the will to sharpen the skills which professionalism demands in an exacting degree. Quantifying merit is a delicate task. Though a relative phenomenon, merit is not the absence of demerit as G.K.Chesterton would have us believe that white is not the absence of colour, as even, virtue is not the absence of vices. They are positive and essential. Merit is a positive worth and not a negative verdict. The students' merit, to quote Prof. Moonis Raza and Prof. Amitabh Kundu, which comes out of the learning and teaching process is a quality which cannot be directly measured. It is an integrated composite category which is inextricably linked with its identity and it cannot be broken up into homogeneous parts. The moment it is broken up, the identity is lost. Hence there is the need to identify quantitative and measurable indicators of quality which may be found in increasing or reduced number. A sound theory of evaluation would be broad-based on these measurable tools, which whatever may be the attempts to objectivity is not value neutral.

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University Industry Collaboration

Prof. S. K. Khanna, Vice-Chairman, University Grants Commission, delivered the Convocation Address at the fifth annual convocation of the Thapar Institute of Engineering and Technology, Patiala. He said, "At the end of 1987, almost 20% of 17 million educated unemployed were graduates and postgraduates. Thus, there is a very serious need to correlate higher and technical education with our manpower needs." And added, "Universities and institutes of higher education have to work together with the industries deciding the content and scope of the areas of study". Excerpts

Changes in the political scenario globally have influenced significantly the socio-economic condition of the human race practically everywhere in the world. Recent Gulf War was a cruel shock to humanity. Such happenings impact the well- being of the entire mankind – be it the economic resources, technological advancement, environment and ecology, or the moral and ethical values. All get affected in myriad ways. Our problems in this country are more complex, primarily because of the inexorable demographical pressure. Population in India in 1901 was 230 million, and today in 1991, it is well over 850 million. This growth itself is a serious challenge for the management of the basic human needs of food, shelter, health and education.

If we look around and search for workable solutions, we get a very disturbing picture. There is no single or simple solution to any of the problems facing us. The problems and their solutions are deeply, and tightly interconnected. Besides that, we take measures to inculcate and preserve in the society, virtues linked with our cultural heritage. We also must enhance the value-oriented approach and strategy in all our actions. We have to evolve and clearly delineate a concrete plan of action.

Pursuit of Science & Technology sometimes may be thought as extraneous activity borrowed from the economically developed countries for developing an acceptable level of living internationally. This becomes apparent when we find that for over four decades of the post-independence era, we still depend heavily on import of technology. I must hasten to add that there are brilliant examples of our own successes in sectors like Agriculture, Health, Space Science and a few more. But these are so few. Mostly, we look forward to obtaining technology from abroad since our industrial sector, somehow lacks faith in our own competence. We must know that the times are changing and we shall have to update our technology very rapidly. Borrowing a decade old technology will always keep us trailing behind the rest of the world. Therefore, to maintain our position in the frontline with other nations, we need to have our own human resources competently exposed to the recent advances in Science & Technology.

Destruction and depletion of forest cover, degradation of agro-eco system, inadequate housing facilities, and diminishing energy resources are some specific problems which brook no delay. True, no country is or can ever be really self-sufficient, because each one will have to fill in the gaps by import balancing, and related export. The import-export equation in India thus far has been rather unsatisfactory, even disturbing. In generating meaningful export of our commodities, we do not have enough to show. And this is quite upsetting, especially when we know that our country has perhaps the largest science & technology based manpower in the world. The solution would seem to lie either in identification of the frontal areas, especially in science & technology, or selecting a policy frame for vigorous implementation that surmounts general apathy toward scientists and technologists. There are ways of doing things without losing time or perspective. This approach combined with the recent policy changes announced by the Government of India may well solve two third of the problems. The aspect of incompetence of our manpower would have to be taken up by the universities and institutes of higher education.

As we go along, we shall have to adopt products and processes linked with advanced materials like electronic, magnetic, metallic, ceramic and chemical and plastic, etc. Wide spectrums of our sectors dealing with heavy engineering, transportation, space, and power, depend on advance materials. Such materials would include superconducting and structural ceramic, molecular composites, carbon composites and kavlar fibres. Photonics will help in developing optical fibres, solid state devices, and integrated electro-optical devices. From now on World would see a major impact resulting from genetic engineering which would provide ways for manipulation of biological systems.

Educational facilities in India since independence have expanded rapidly. Currently there are over 180 Universities, 27 Deemed Universities and 10 Institutes of national importance including 5 IITs, over 300 Engineering and Medical Colleges and 7,000 Colleges. This represents a massive framework for training of scientific and technical manpower. We have over 4 million S&T personnel. During the Seventh Plan period, there have been several new mechanisms evolved to ensure that the science & technology capabilities are made application oriented. Four major mechanisms, include mission approach, integration of S&T and socio-economic sector and application of science & technology for rural development and other societal developments. Mission-oriented ethos have introduced a sense of urgency with clearcut time and cost schedules. Areas like oil seeds, mass immunisation, improved communication, drinking water, literacy and milk production are some of the areas which we adopted in the mission approach. With all the qualified S&T personnel, the actual number per capita however is far from adequate.

The Indian education system, with all its expansion is catering only to about 8% of youth population of the eligible age group for their growth and development. The education system also requires to be innovated for developing involvement in science & technology in a meaningful manner. Our tendency to look for technology from abroad has increased in the recent years which in turn has caused a severe damage to the industry as well as education system, together. The speed with which development occures in science & technology the world over often caused disappointment to us, because every time we moved a step forward in India, the science & technology scenario globally moves 5 to 10 steps ahead. Some effective measures have to be taken in generating meaningful applications of science & technology for solving some of our economic and social problems. Our academic institutions and the science laboratories will have to work in unison to harness our S&T capabilities for social and economic development.

A brief review of the achievements of Indian engineers and technologists, makes one feel proud, and rightly the 50s and 60s were prime period when India launched industrial development and technological research. Major R&D establishments like departments of Atomic Energy, Space, Defence Research and Development, Electronics, Science & Technology, Environment and Ocean Development have been the new departments established by the Government in the country till today. Nearly half of India's Five Years Plan outlays have gone into massive irrigation and multipurpose projects for which Indian engineers deserve credit. The Green Revolution backed up by development in water resources has made India self-sufficient in providing food to the millions. Impressive transportation networks of highways, railways, airways and waterways have provided mobility and accessibility to millions of our countrymen living even in remote areas. Similar successes are visible in the other sectors of engineering, including thermal power stations, communications, generation and distribution of energy, materials process, control of automation, besides of course some new branches like chemical technology, mining and metallurgy, aeronautical engineering and textile industry, etc. When we compare the horizon year of 1960-61 with the end of the Sixth Plan, for 25 years, the production of coal and steel have been raised to three to four times, cement and petrol products are 6-8 times up, fertilizers are over 40 times.

Despite a spectacular growth in the industrial sector, there are massive deficiencies too. The world today is experiencing tremendous expansion of knowledge. As it advances in the frontiers of knowledge, considerable part of the already acquired knowledge and skill becomes obsolete. Micro specialities are fast changing with the overall objectives for economic process and production. Technical education must necessarily update itself and this process has to be dynamic. We need to develop education programmes across the boundaries of the subject specialities which should be mission oriented. This would yield results and prepare engineers and technologists who would have first hand information and training to cast innovations in the industrial sector. Education merely for the sake of education is a luxury which we can hardly afford. At the end of 1987, almost 20% of 17 million educated unemployed were graduates and postgraduates. Thus, there is a very serious need to correlate higher and technical education with our manpower needs. Universities and institutes of higher education have to work together with the industries deciding the content and scope of the areas of study. We feel concerned when we find that 8,000 recipients of doctorate degree available to us every year do not have any meaningful absorption in the various development sectors. Thus, we need to redesign our educational programmes, and the academic bodies of the higher education system must come forward in creating a balance in the academic content of the courses, and help the youth infused with professional skills for employment or self-employment. We have the responsibility of providing subject knowledge and skills, for generating employability to our youth, and its participation in the development and reconstruction of our great nation.

LOOKING AHEAD

Excerpts from the Director's Report by
Professor Dr. T.R.Anantharaman

Academic Programmes

The present academic programmes of our institute which acquired the status of a Deemed University on January 1, 1986, include Bachelor of Engineering (B.E.) courses in Civil, Electrical, Electronics & Electrical Communication, Electronics (Instrumentation & Control), Mechanical, Industrial Engineering (co-operative); Master of Computer Applications (M.C.A.); Master of Science (M.Sc.) in Materials Science (co-operative); Full-time and Part-time Master of Engineering (M.E.) Courses in Structural Engineering, Geo-technical Engineering, Industrial Engineering, Environmental Engineering, Electrical Power and Machines Engineering, Computer Engineering and Heat Power Engineering. The Institute also offers Research Programmes leading to the Ph.D. Degree in Engineering, Sciences and Humanities.

Admission to the B.E. courses during the academic year 1989-90 was organised through a Joint Entrance Test in collaboration with the Panjab University, Chandigarh. Since the 1990-91 session a Common Entrance Test is being conducted every year for admission to all B.E. and equivalent courses in the engineering institutions of Punjab State and Chandigarh Union Territory.

Admission to full-time M.E. Courses is based on Merit in the National GATE examination i.e. the Graduate Aptitude Test in Engineering. Admission to Ph.D., and Part-time M.E. courses are granted on the basis of admission tests conducted by the concerned Departments. Admission to the M.C.A. course is made through our own Entrance Test with Centres at Delhi and Patiala. During the academic year 1990-91 the Institute had on its rolls 711 B.E. students, 88 M.C.A. students, 64 students for the full-time M.E. Courses, 122 students for part-time M.E. Courses and 10 students for Ph.D. degree, a total of 995 students in all against a total of 918 during the 1989-90 session.

Profile for the Nineties

As the Seventh Five Year Plan was approaching its end, the Board of Governors of TIET gave considerable thought to the Institute's restructuring and growth during the next decade i.e., the nineties, that will usher in the new high-tech millennium (2000-3000 A.D.) and eventually gave its seal of approval at its meeting on November 8, 1989, to a document entitled THE INSTITUTE PROFILE FOR THE NINETIES, as it emerged after due discussions at meetings of the Institute's Planning & Monitoring Board and Senate. As per this accepted plan of expansion for the 1990-99 period, the academic units of the Institute will continue to be Departments, Schools and Centres, but with their roles more clearly defined than hitherto. The role of DEPARTMENTS will be to organise and conduct undergraduate (B.E.), postgraduate (M.E., MCA etc.) and doctoral (Ph.D and D.Sc.) programmes in broad, basic engineering/technological disciplines, while the SCHOOLS will be concerned with only i.e. postgraduate (M.E., M.Sc., M.Phil etc.) and doctoral (Ph.D. and D.Sc.) programmes in relevant special areas. CENTRES may be either Special Research Centres within Departments of Inter-Disciplinary Units serving the Institute as a whole, without organising degree courses of their own.

The following are the new developments that have already taken place or are in the planning stage:

1. A new Department of Chemical Engineering will come into being in line with and in addition to the existing three Departments of Civil Engineering, Electrical & Electronics Engineering and Mechanical & Industrial Engineering.
2. Four new Schools have been established in addition to the School of Basic & Applied Sciences and the School of Humanities, Culture and Liberal Arts formed after bifurcation of the earstwhile Department of Applied Sciences and Humanities:
    i) School of Materials Science and Technology
    ii) School of Biotechnology
    iii) School of Management Studies
    iv) School of Computer Sciences and Technology
3. Two new centres will be established besides the present Central Library and the renamed Centre for Industrial Liaison & Placement, viz:
    i) Centre for Instrumentation and Services
    ii) Centre for Technology Transfer

Thus TIET is expected to consist of FOUR Departments, SIX Schools and FOUR Centres by the end of the present decade. It is also pledged to continue to interact effectively and to collaborate in many ways with the Thapar Corporate Research & Development Centre and the Thapar Polytechnic, the two other institutions in the Thapar Technology Campus, Patiala.

According to a comprehensive survey sponsored by the Department of Science and Technology, Government of India, and completed as well as published by the Centre for Science, Technology & Environmental Policy Studies, New Delhi, in January 1990 on "Employment Pattern of Scientific and Technical Personnel" in our country covering 80 Science and Technology Educational Institutions, among the top 20 suppliers of fresh Engineers to Public Sector, TIET figures 9th in the list which includes all five Indian Institutes of Technology (IITs), Roorkee University and Jadavpur University. TIET also figures among the 20 top suppliers of fresh Engineers to the Corporate Sector.

A major programme was initiated five years ago for modernisation of laboratories and workshops through replacement of obsolete equipment and acquisition of a broad range of new equipment for teaching and research in existing and emerging areas. Substantial progress was made in this programme utilising grants to the tune of over Rs.3.0 crores received from the University Grants Commission (UGC), the Ministry of Human Resource Development (MHRD), the Patiala Technical Education Trust (PTET) and the Thaper Group Companies. Computerisation facilities were also added to the Central Library with similar support. In all, during the years 1989-91, a total sum of about Rs.45.00 lakhs was spent on this augmentation work of laboratories and library. Now every Department including the Central Library has its own computer facility.

TIET has been short-listed by the Central Government to receive Japan Grant Aid worth some crores of rupees. The Department of Electronics, Government of India, has included TIET in the list of a dozen engineering institutions in this country to receive Swiss and World Bank aid to upgrade instruments in Electronics and Computer Engineering to the tune of Rs.1.00 crore. Every laboratory at the Institute is now being modernised so that in due course it will be second to none in the country in terms of modern facilities for degree level instruction and advanced research.

Interaction with Industry

A University is generally regarded as a centre for the acquisition of knowledge at an abstract level. Our Institute is, however, different. It is a university that believes in combining abstract knowledge with practical experience. To provide this practical experience and also foster the spirit of "relevant teaching and research", interaction with industry needs to be realised. The Institute has all along been in a special position to realise this through interaction with the Thapar Group of Industries.

A significant innovation involving close interaction with industry has been the recent introduction of a Cooperative Programme for education in engineering, science and technology. This programme, designed for a five-year duration for the B.E. (Industrial Engineering) course and for a three-year duration for the M.Sc. (Material Science) course, is operated through a sequence of academic terms at the Institute interspersed with work terms in the industry. During the work term in the industry the student is treated as an employee, paid as such and gets an opportunity to apply on job what he has learnt in the class room. It is proposed to extend the programme to other disciplines in due course.

The Institute-Industry interaction has also been fostered in TIET through the appointment of Adjunct Faculty. Engineers/Scientists from various Industries/Government Departments are invited to teach courses in collaboration with the faculty of the Institute and thereby provide a new dimension to teaching. Under the Industrial Opportunities Programme members of the Faculty are encouraged to accept assignments in industry during vacations. Thus the programme makes available to the industry the expertise of the academicians and to the Institute, an opportunity to interact with industry.

To strengthen the interaction with industry, the Institute has organised a comprehensive Industrial Associates Programme (IAP) for the Corporate Members of the Institute. Under this Programme the Institute provides many services to the Corporate Members. The Industrial Associates Programme has an Advisory Council to advise the Board of Governors of the Institute on policy issues relating to the organisation, operation and development of the Programme.

We Congratulate ....

Prof Bashiruddin Ahmed who has been appointed Vice-Chancellor of the Jamia Millia Islamia University.

CAMPUS NEWS

Perspectives on Music Research

Indian Musicological Society, in collaboration with the Department of Music, University of Bombay, recently organised a National Seminar on, "Music Research — Perspectives and Prospects". Inaugurating the seminar, Dr. S.D. Karnik, Pro-Vice-Chancellor, University of Bombay, said that music was an expression of the human intellect and emotions, and attracted multi-disciplinary and holistic approach for fathoming its meaning and impact, mainly on the human being, and perhaps on other living beings and environment. Dr. Karnik pointed out that music, as such, was part of our daily life and was a vital part of our culture, and that its impact on us, from childhood to the adulthood was immense. It was in the fitness of things that an important subject — the subject of research in music — was taken up for discussion amongst the eminent musicologists of India, he added.

Earlier, in her welcome address, Smt. Krishna Khatau, President of the Indian Musicological Society, acquainted the audience with the twenty-one year old Indian Musicological Society and its main function of publishing a research journal and monographs of musical scholarship.

"Holding seminars and symposia were part of the Society's activities . In order to encourage reputed musicologists in the writing — researching of unexplored areas of musical studies, the Society had recently instituted Pt. Bhatkhande Memorial Lectures and Projects", she said, and added that in the last few years the Society convened seminars on "Khyal", "Thumri-Tradition and Trends", and "Bandish — Perspectives on Composition in Indian Music".

Seminar Director, Prof. R.C. Mehta, presenting an overview of education in music in the Indian Universities, pointed out that out of 189 universities and university level institutions, 135 universities offered multi-disciplinary studies, and out of these, 66 universities offered music education at different levels of study, i.e. certificate, diploma, graduate & postgraduate. Taking stock of the postgraduate doctoral studies, in music or music related topics, he pointed out that during the period 1950-1990, Research degree in music was awarded by some 30 universities, and it was estimated that some 200 Ph.D. Theses were approved during the four decades, mostly during the last 25 years. He pointed out that nearly 50% of the universities offering multidisciplinary studies (135), afforded no opportunity for any study in music and that perhaps half of the nation was starved of any opportunity to study music at the university level. Thousands of small towns, even while having an arts college, did not provide any opportunity for the study of music, and wide spread literacy in music was just a dream. Under this milieu, a majority of the population cannot discriminate between good or bad music fed to them from all sides — and remain culturally impoverished, he added.

"An agenda for Music Research— the Next two Decades : Some Thrust Areas — Reference Indian Music" — was the theme of the Key Address given by Dr. Premlata Sharma, Ex-Vice-Chancellor, Indira Kala Sangeet Vishwavidyalaya, and Retd.Professor in musicology, Banaras Hindu University. Speaking on the thrust areas, requiring priority of attention in research, she drew attention to the need for the preparation of critical edition of certain important texts and interpretation of the textual tradition vis- a-vis the oral tradition; study of song texts, from their potentials as source materials; the need for historical studies as manifestations of the human psyche; evolving critical terminology and pedagogical needs to cover diverging educational objectives. Aesthetics and psychology of music in the context of Indian traditional thought and the modern experimental methods, were also some of the research areas in the field of musicology, emphasised by Dr. Premlata.

The ten seminar sessions were devised major topic-wise, covering The Spirit of Inquiry and Fundamentals of Research, Problems and Aids to Research; Computer Application to Music; Research for Values in the midst of Tradition; Prospects of Research in the Indian Tala System; Music and Interdisciplinary Studies; Prospects of Research in Indian String Instruments; Innovation with reference to areas in Carnatak music; Ragas; Ethnomusicological Perspectives, etc. Principal speakers included Dr. Subhadra Chaudhari (Khairagarh); Pt. Arvind Parikh (Bombay), Pt. K.G. Ginde (Bombay), Dr. S.A.K. Durga (Madras), Prof. Sharad Mehta (Nadiad), Shri Suresh Chandvankar (Bombay), Dr. N.C. Khandekar (Delhi), Dr. Ritwik

Sanyal (Varanasi), Dr. Mukesh Garg (Delhi), Dr. Indrani Chakraborty (Shimla), Pt. Amubhai Doshi (Rajkot), Smt. Prabha Mathur (Jaipur), Ms. Suvarnalate Rao (Bombay), Pt. Arvind Mulgaonker (Bombay), Prof. Hrishikesh Pathak (Ahmedabad), Dr. Shrirang Sangoram (Pune), Dr. Sushilarani Patel (Bombay), Dr. Sudeepta Sharma (Agra), Dr. Lovely Sharma (Agra), Dr. Vidyadhar Vyas (Bombay : Director - Coordination), and Prof. R.C. Mehta, Director of the Seminar and Hon. Gen. Secretary of the Indian Musicological Society. Several academics, musicians and musicologists participated in the discussions following presentation of papers.

An exhibition, titled "A Window to Musicology", of some sixty music research-oriented periodicals — most of them from abroad — was organised as part of the seminar event. They covered interdisciplinary areas of music as related to several areas of knowledge.

This was the first exhibition of research-oriented periodicals on music organised in India. The exhibition provided a unique opportunity to the academics, several of them engaged in guiding research, to acquaint themselves with international Journals in music and related sub-disciplines.

International Publishers Congress

The Vice-President, Dr Shankar Dayal Sharma, called on the world publishing community to give increased attention to translating books of eminent authors and intellectuals into various languages to enable free flow of information and knowledge.

Dr Sharma was speaking at the 24th Congress of International Publishers Association. He said the translation should not be confined to books relating to science and technology alone but those on humanities, culture and other subjects should also be translated.

Dr Sharma said joint ventures in book production would be of mutual interest.

He said the reading public in India would be about 800 million by the turn of the century. It was a great opportunity and challenge for the publishers to cater to the reading needs of the millions.

Dr Sharma said traditionally the Indian ethos laid great emphasis on learning and knowledge and referred to writings in the ancient Indian texts of the rig veda which said, "let noble thought and ideas come from all over the world".

The uniqueness of India's literary wealth was that it was available in languages which were spoken widely, Dr Sharma said giving the example of the 2,300 year-old Tamil literature which he described as "rich and vibrant".

Speaking on the occasion, the President of Portugal, Dr Mario Soares, said 'Through the books that they publish, publishers more than any one else, contribute to the furtherance of dialogue, between people and cultures'.

Dr Soares observed that we were witnessing and living through a stupendous breaking of barriers, in all senses of the term. With the emergence of unipolar world, and the sea change in values, there is over-all change in the world. We are advancing towards a system which intensified the relationship between culture and existence through the accumulation of messages that exudes new life-styles."

"Today any cultural, political, economic or religious event has a large and heterogeneous audience. The dissemination and exchange of messages has substantially enlarged the field of interaction and reciprocal knowledge among mankind, irrespective of language, culture, religion, race and social background," Dr Soares said and added that books have played a key role in this.

The Human Resource Development Minister, Mr Arjun Singh, in a message said that there was a need for quality publishing of the children's books. Though we publish large number of children's books, the need of the hour was to step up quality and professionalism. "Better quality, content, production and economic viability of children's books is the most important thing today." he said.

The former Indian Ambassador to the US, Dr Karan Singh, said as humanity today was in transition, the importance of the print world has become more meaningful. Not only the television, but books, journals and periodicals have (today) the ever increasing role of knitting the world into a goal family. He criticised publishing world for going "Euro-centric" where 98 percent of books published were from European writers. He urged the publishers to acquire a balanced approach.

Earlier in his welcome speech, Mr Dina Nath Malhotra, Honorary President of the Congress, said the publishers should produce books which create political and social awakening.

Workshop on Public Administration

Dr. K. Jayashankar, Vice-Chancellor of the Kakatiya University inaugurated the two-day workshop on the "Status of the discipline of Public Administration of India – Past, Present and Future" organised by the Department of Political Science & Public Administration of the Kakatiya University, recently. He said, "In the past systems and methods were more important in the administration of an organisation than its individual functionarities. This practice slowly disappeared and at present the administration, by and large, has become individual centred resulting in arbitrariness and manipulations, which is not desirable."

Dr. Jayashankar stressed the need for reviving the old practice of rules and regulations, systems and methods etc. for smooth and efficient functioning of any organisation. He called upon the experts in the field of Public Administration to work in this direction with a view to ensuring bright future for our country.

Prof. A. Amruth Rao, Head of Political Science and Public Administration, outlined the aims and objectives of the workshop.

Prof. V. Bhaskara Rao, Principal of the University College, presided.

About 40 faculty members representing different universities in the State participated in the workshop.

International Conference on Canadian Studies

The VIIIth International Conference on Canadian Studies was hosted by the Department of English, Gujarat University, in collaboration with the Indian Association for Canadian Studies from January 6 to 9, 1992. The Conference was inaugurated by Gujarat Governor, His Excellency, Dr. Sarup Singh and attended among others by the Canadian Deputy High Commissioner, Mr D. G. Longmuir.

The theme of the Seminar was "Colony, Nation, Globalization – Canada and India". The theme was dealt in its economic, political, historical, literary and metaphorical, sociological, educational ,linguistic and cultural aspects in relation to Canada and India. Scholars who attended the Conference discussed ways to find areas of common interest between India and Canada in the fields of mixed economy, multi-lingual society and "colonial space" referring to the literature of commonwealth countries.

Many papers presented at the Conference dealt with Canada's identity cris.

Another area of interest among the scholars was studies in comparison between Candian and Indian writers. Comparison were made between Margaret Laurence and Kamala Markendeya, Margret Atwood and Kamala Das, Rudy Wiebs and Sulman Rushdie and a host of other litterateurs.

More than 100 delegates attended the Conference, 25 of them from abroad. The Conference was indeed a boost for Canadian studies in Indian Universities.

Seminar on Women & Development

The Department of Sociology, Kuvempu University, will host a two- day national seminar on 6th and 7th March, 1992. The theme of the seminar is 'Women and Development: Critical Issues'. The seminar is expected to attract reputed sociologists and social scientists from different parts of the country. Eight technical sessions with about 20 papers are planned. Papers are called to be presented on the following sub-topics:

a) Women and development: theoretical issues; b) Women and Power; c) Women and economy; d) Women and mass media; e) Women and education; and f) Women and public health.

Papers (about 4,500 words to 6,000 words), accompanied by an abstract of about 400 words and a summary of the biodata of the author/authors, may be submitted by 29th February 1992. The manuscripts may be submitted in the final form. The seminar organizing committee intends to publish selected papers in the form of a book.

For details regarding registration, accommodation and other arrangements, please write to Dr. V.N. Bhat, Chairman, Department of Sociology, Kuvempu University, Jnana Sahyadri, B.R.Project, Shimoga - 577115, Karnataka State.

Telugu University Visista Puraskaram

The Telugu University, Hyderabad, has instituted a special award namely "Telugu Vishwa Vidyalaya Visista Puraskaram". The award carrying a cash prize of Rs. 50,000 would be given annually to eminent contemporary Telugu men who had made significant contribution to Telugu Poetry, Novel, Drama, Short Story, Creative Criticism and Fine Arts.

The award for 1991 was presented to Padmashri Dr.Boyi Bheemanna, noted Telugu Poet at a colourful function in Ravindra Bharathi auditorium on January 14, 1992. The Union Minister of Law and Justice Sri K.Vijaya Bhaskar Reddy presented a memento and the cheque for Rs.50,000. Sri N.

Janardhan Reddy, Chief Minister of Andhra Pradesh, felicitated the poet and said that there was a need to protect the rich traditional drama forms of the State.

Speaking on the occasion Mr. K.Vijaya Bhaskar Reddy, urged the Telugu University and the State Government to encourage the traditional art forms and folk literature. He said universities should take the responsibility of presenting awards to outstanding personalities in various fields.

Presiding over the meeting the University's Vice-Chancellor, Prof. C.Narayah Reddy, said that the State Government had sanctioned R.20 lakh to the University for the production of documentaries on eminent personalities.

News from Agricultural Universities

Agricultural Engineers Meet at TNAU

The State level Scientific Workers' conference in Agricultural Engineering was inaugurated at Tamil Nadu Agricultural University (TNAU) on January 6,1992. The Superintending Engineers and Divisional Engineers of the Department of Agricultural Engineering and Agricultural Engineering Scientists of TNAU participated in the two-day conference.

In his keynote address, Shri S.Krishnaswami, Chief Engineer (River Valley Project), Agricultural Engineering Department, referred to the prosperity of rainfed agriculture which largely depended on prevention of soil erosion, conservation of soil moisture, water harvesting and evolution of alternate land-use and called upon the agricultural engineering scientists to further intensify research outputs in the form of new cost effective technologies, simple replicable methods requiring less skills on the part of the farmers.

Underlining the need for maintaining healthy soils, he said that in view of the scarcity of land resources we have to reclaim the salt affected soils and waterlogged areas. He also suggested that the production potentials of water be established when other inputs remain at constant level and crop specific, location specific water requirement should be estimated.

Referring to the importance of farm machinery, he said that appropriate farm implements play key role in promoting the optimum use of soil, water and air and in reducing drudgery. The research efforts should also concentrate on evolving simple methods which could be easily adopted by farmers to store the produce for a reasonable time or to process them to earn more profit.

Shri Krishnaswami also stressed the need for imparting training on extension technologies and methodologies and refresher courses on farm machinery, water management, bio-energy, post harvest and processing technologies to agricultural engineering extension officials for speedy transfer of technology.

Dr.S.Jayaraj, Vice-Chancellor, TNAU, in his presidential address, stressed the need for promotion of potential agro-based industries in villages and called upon the participants to develop appropriate agricultural engineering strategies to promote them on large scale in our State. Showing concern over the dwindlig share of agriculture in national product, the Vice-Chancellor stressed the need for popularising the agricultural engineering technologies that would reduce the cost of cultivation and provide increased employment opportunities in the villages.

Dr. Jayaraj stressed the importance of developing small-scale processing industries and waste utilisation and by-product utilisation for enhancing the productivity in agriculture and allied fields. He also underlined the role of bio-engineers in achieving the bio-village concept enunciated by Dr.M.S. Swaminathan.

Dr.S.Chelliah, Director of Research, in his introductory address outlined the potentialities of exporting farm machineries to developing countries by our State. Prof. K. R. Swaminathan, Dean, College of Agricultural Engineering, in his welcome address highlighted the research and development efforts in agirucltural engineering by TNAU in collaboration with State Development Departments.

Literacy Campaign at Konkan Krishi Vidyapeeth

In response to the Literacy Mission, the Mass Programme of Functional Literacy is being implemented in the constituent colleges of the Konkan Krishi Vidyapeeth, Dapoli. The University has decided to launch a campaign to educate all the illiterate labourers and Class-IV employees as well as the family members of the University staff.

The NSS unit of the College of Agriculture organised a special function on January 1, 1992, to inaugurate this campaign. Dr.S.B. Kadrekar, Vice-Chancellor, Konkan Krishi Vidyapeeth, inaugurated the campaign by lighting a sacred lamp. In his inaugural address Dr.Kadrekar said that the country could not make the desired progress even after four decades of independence, mainly because of prevalence of large scale illiteracy among the population. The country cannot prosper in true sense unless each and every individual becomes literate, he observed. He appealed to the students and staff members to volunteer for this sacred national mission and said that the literacy mission would help in improving the occupational competence of the rural people which, in turn, would elevate their economic status. For this, lessons in simple language, related to farming and allied occupations, should be suitably incorporated in the programme of educating the illiterates and neo-literates, he added.

For planning and implementing this campaign the University has established a committee under the Chairmanship of the Registrar of the University. The committee will also monitor the programme at all the campuses of the University.

News from UGC

Countrywide Classroom Programme

Between 17th February and 22nd February 1992 the following schedule of telecast on higher education through INSAT-1D under the auspices of the University Grants Commission will be observed. The programme is presented in two sets of one hour duration each every day from 1.00 p.m. to 2.00 p.m. and 4.00 p.m. to 5.00 p.m. The programme is available on the TV Network throughout the country.

Ist Transmission

1.00 p.m. to 2.00 p.m.

17.2.92

"Properties of Fluids-I: Viscosity"

"Management-VII: Organisation Structure"

"New Techniques in Fish Culture"

18.2.92

"Organic Reaction Mechanisms-III"

"The Dinosaur-I"

19.2.91

"N.D.T.-I: Advantages"

"The Great Pyramid: A Tomboran Observatory"

"Soilless Farming and Biological Control"

20.2.92

"Freshers in the world of Machinery"

"Phosphate Rock"

"Indian Poetics-IV: Functions of Indian Aesthetics"

21.2.92

"A Date With Maths-I"

"Homeostasis"

"Desertification and its control"

22.2.92

"Science of Musical Instruments-IV: Naad Branha"

"Calcutta Metro-I: A Challenge Met"

"Week Ahead"

IInd Transmission

4.00 p.m. to 5.00 p.m.

17.2.92

"Remote Sensing-XX:IRS System"

"Management-III: management Principles"

"the Sight of Sands"

18.2.92

"Ways of Thinking-VIII: The Maps that the Mind Creates"

"Volumes of Reacting Gases"

19.2.92

"The Story of Car-II"

"Stress without Duress"

"Male Reproductive Physiology"

20.2.92

"High Voltage Electrical Engineering"

"Moving Pictures in Anthropology"

"A.K. Mehrotra and His Experimental Poetry"

21.2.92

"Parabola" Lecture by Prof. V. Kannan"

"Check Mate"

"Education through Art: Isa Vasya"

22.2.92

"Painting: An Introduction"

"The Young Goethe"

"Weak Ahead"

News from Abroad

Quality in Australian Higher Education

The Australian government wants to be sure that quality in higher education is recognised, encouraged and rewarded but no one seems to agree on what it actually means.

Peter Baldwin, the Higher Education Minister, referred the issue to the National Board of Employment, Education and Training last June. In October, he released a White Paper whose main initiative was the allocation each year from 1994 of A$70 million (£29 million) extra for a "quality assurance and enhancement programme". The money would be used to reward institutions that made best use of their resources.

"The government is taking the lead internationally in providing incentive funding, over and above funding for student load, to promote the best possible quality in higher education," Mr Baldwin said.

Meanwhile, the national board had sent the quality assessment issue to the Higher Education Council with a substantial brief. Mr Baldwin listed five areas he wanted examined, including ways quality changes might be monitored and evaluated.

Late in November, the council distributed a discussion paper to top higher education groups for responses. The problems for the council was not how to elaborate definitions or criteria, the paper said, but how to develop a framework that would encourage institutions to meet criteria understandable and acceptable to "all the stakeholders".

Ian Chubb, council chairman, has charge of the inquiry and he had already said publicly that the focus would be on output. But as the education process largely determined the quality of output, then that needed to be examined also.

Professor Chubb said the quality of graduates was closely related to the quality of the teaching and learning environment. Peer and employer approval would continue to be used in quality control of higher education, but more formal indicators that take account of the diverse background of students would also be introduced.

"Higher education institutions themselves have been mainly responsible for monitoring the quality of education. They do this through such mechanisms as admission policies, staff development and appraisal, curriculum reviews and general peer assessment," Professor Chubb said.

Discipline reviews would be used more often to look at whether teaching and research were conducted at a suitable level and the council would continue to keep tabs on how institutions themselves evaluated teaching performance.

But academics have not greeted any of these ideas particularly warmly. Ken McKinnon, chairman of the Australian Vice-Chancellors' Committee, has said he was sceptical about the council coming up with anything useful and denied any suggestion that Australian universities were lacking in quality.

He thought any link between resources and quality would be tenuors. "You can take it we won't support any inquiry if, at the end, it means greater government surveillance", he said.

In its discussion paper, the council said peer review historically was seen as the most appropriate way of evaluating quality. But while important, peers were not the only stakeholders and a more balanced approach was desirable — "if only to make the outcomes of the appraisal more convincing for the community funding the system".

The council also supported Mr Baldwin's suggestion that there should be a national structure, independent of government, to comment and report on quality.

Professor McKinnon said the Vice-Chancellors were concerned by the assumption that centralised national bodies could better define higher education quality than universities themselves. The committee "viewed with wariness" any attempts by such bodies to make pronouncements on quality.

He said universities should continue to take full responsibility for developing and defining quality and the ways in which quality could be monitored. No national structure to judge quality could be truly independent of government because it would be set up by government.

Professor McKinnon also questioned the value of discipline reviews. He thought they took up time without having any impact on the ethos or operations of an institution. The ones that had been conducted were neither particularly helpful nor effective.

If the Chubb inquiry wanted to investigate anything, it could have a look at the present popularity among institutions of mission statements, strategic plans and management schemes. "I don't question the right of the government or the community to an assessment of how the system is operating. The question is whether this investigation will turn into some centralised process that in turn could stifle growth."

Professor Chubb's inquiry will consider the attributes of graduates and would explore the processes used by institutions to ensure quality.

These include ways of improving the quality of teaching and methodologies, how institutions set objectives and how they evaluated their courses against these.

Issues of process also involved internal quality control and measures to assure consistency of achievement. Staff development of programmes, support for scholarly research, professional activities, and student support were also part of the process.

Judgments on the efficacy of the processes should be made in a way that outsiders could be assured quality was assessed regularly and matched to institutions' objectives. One way to do this would be to involve external groups in the development of courses and the curriculum.

"Practitioners and community representatives have much to offer at this level and their input should be sought, taken seriously and consistently within the system," the council's paper said.

If questioned whether self-evaluation by institutions was enough, even with the assistance of an agreed framework, would it permit the monitoring of changes in quality over time?

Institutions would be encouraged to produce an "accountability statement" that was public and which would allow universities to state their objectives and their achievements.

We Congratulate.....

1. **Prof Cingireddy Narayana Reddy, Vice- Chancellor, Telugu University, Hyderabad, who has been awarded Padma Bhushan in recognition of his contribution to Telugu Poetry.**
2. **Dr Khem Singh Gill, Vice-Chancellor, Punjab Agricultural University, Ludhiana, who has been awarded Padma Bhushan in recognition of his contributions in the field of Genetics and Plant Breeding.**
3. **Dr Rajammal P. Devadas, Vice-Chancellor, Avinashilingam Institute for Home Science & Higher Education for Women, Coimbatore, who has been awarded Padma Shri in recognition of her contributions to the promotion of Home Science.**
4. **Dr V. C. Kulandai Swamy, Vice-Chancellor, Indira Gandhi National Open University, New Delhi, who has been awarded Padma Shri in recognition of his services in the field of Education and Science.**

School of Planning and Architecture: New Delhi-2

(Deemed to be a University)

TENTH CONVOCATION

The Tenth Convocation of the School of Planning and Architecture will be held on Friday, 21st February, 1992, at 2.30 p.m., at the Maharani Bagh Campus of the School.

Students eligible to receive degree are requested to present themselves for registration between 10.00 a.m. to 1.00 p.m. on 21st February at Architecture/Planning Campus of the School.

E.F.N. Ribeiro
DIRECTOR

CALENDAR OF EVENTS

Proposed Date of the Event	Title	Objective	Name of the Organising Department	Name of the Organising Secretary/ Officer to be Contacted
March 9-15, 1992	International Conference on Experiential Learning	To promote experiential learning and other scientific, educational, cultural and related activities and spiritual pursuits	Indian Society for Experiential Learning, Pondicherry	Prof. S. Mohan, Prof. of Physics, Pondicherry University, Pondicherry
April 8-10, 1992	Programme on Profit Planning: Cost, Pricing & Liquidity Management at Ahmedabad	To understand cost-price-profit relationship & its relavance in corporate management intending to survive & prosper and also to highlight planning & management area in all its complexities	The Institute of Costs & Works Accountants of India	Mrs. Rama Kashinath, Joint Directoe (PD & P) The Institute of Costs & Work Accountants of India, 3, Institutional Area, Lodi Road, New Delhi - 110 003
May 12-14, 1992	Programme on Management of Energy, System for its Monitoring at Shimla	To equip the managers in industries to frame strategies for energy planning & control & to guide the Govt. representatives to frame National Policy for Energy Conservation & Management	-do-	-do-
August 11-16, 1992	8th World Congress for Rural Sociology	Theme : Rural Society in the Changing World Order	International Rural Sociology Association, USA	The Pennsylvania State University, 306, Agricultural Administration Building, University Park, Pennsylvania - 16802
August 16-19, 1992	55th Annual Meeting of the Rural Sociological Society	Theme : Rurality and the Global Environment	Rural Sociological Society, USA	-do-
August 26-28, 1992	Second International ISKO Conference on Cognitive Paradigms in Knowledge Organisation	To provide a forum for scholars working in the field of knowledge organisation	Madras Library Association in collaboration with Sarada Ranganathan Endowment for Library Science and University of Madras	Mr. S. N. Kumar Conference Secretariat, 5, Sivaganga Road, Madras-600 034
October 26-31, 1992	Third IAU Mid-Term Conference to be held at Alexandria, Egypt	Theme:Adaptation of University Management Structures and Strategies for New Requirement	International Association of Universities (IAU), France	Dr Franz Eberhard, Secretary General, International Association of Universities, 1, rue Miollis, 75732 Paris Cedex 15 France
November 9-13, 1992	16th World Conference on Distance Education for the Twenty-First Century	To give a view of the aspects of development in Distance Education in the Twenty-First Century	International Council for Distance Education, in cooperation with Sukhothai Thammathirat Open University (STOU), Thailand	Mr. Bruce Scriven, Program Chair – 16th World Conference of ICDE, Queensland University of Technology, Locked Bag No. 2, Red Hill Queensland

AIU Library

Established in 1965, the AIU Library has acquired over the years a valuable collection of books and documents on higher education. Among the topics prominently represented are educational sociology, educational planning, educational administration, teaching & teachers' training, examinations, economics of education and country studies. Developing fields of adult education, continuing education and distance education, and educational technology are also well stocked.

The library is particularly strong in its collection of reports whether they are on the setting up of different universities or on the state of higher education. Files of annual reports of different universities are also maintained. Readers are kept informed of the latest acquisitions through our column 'Additions to the AIU Library'.

The library receives about a 100 periodical titles on higher education. All these are indexed regularly and a select list appears every month as 'Current Documentation in Education'. Similarly our column 'Education News Index' reports editorials and articles on higher education published in over 20 newspapers that are received in the library from all over the country.

The library is steadily building up a collection of audio and video cassettes on matters educational and maintains a well appointed Audio-Visual Room equipped with a double deck audio cassette recorder, a VCR and a colour TV monitor, and an overhead projector.

Doctoral Degrees awarded during the preceding month are reported as 'Theses of the Month', while registrations made for such degrees are flashed as 'Research in Progress'. Bibliographies are also compiled and supplied on demand.

Research Scholars and students of education are welcome to use these resources. The Library is open from 9.00 a.m. to 5.30 p.m. Monday through Friday. Access can also be had through inter library loan for which requisition must be made through your Librarian.

THESES OF THE MONTH

A list of Doctoral Theses accepted by Indian Universities

PHYSICAL SCIENCES

Mathematics

1. Chakraborty, Biswajit. **Studies in Kaluza-Klein approach to unification.** Madras.

2. Chandra, S. **A study on some discrete time manpower models and their analysis.** Madras.

3. Devendra Prasad. **A study in micropolar elastic deformations.** BIT Ranchi.

4. Gupta, Dharam Vir. **Singular Lorentz limit of some gravitational metrics and some pseudospherically symmetric fluids.** Roorkee.

5. Hegde, Suresh Manjanath. **Numbered graphs and their applications.** Delhi.

6. Hitha, N. **Some characterizations of Pareto and related populations.** CUST. Dr N Unnikrishnan Nair, Prof, Department of Mathematics, Cochin University of Science and Technology, Kochi.

7. Ibohanbi Singh, Khumukcham. **Waves in plasmas.** Manipur. Dr G C Das, Assoc Prof, Department of Mathematics, Manipur University, Imphal.

8. Karmakar, Bhola Nath. **Ion-acoustic solitary waves in multicomponent plasmas.** Manipur. Dr G C Das, Assoc Prof, Department of Mathematics, Manipur University, Imphal.

9. Majumdar, Premtosh. **Some problems on nonequilibrium stochastic process.** Calcutta.

10. Manihar Singh, Thingbaijam. **A study of operators and fixed points.** Manipur. Dr A K Chatterjee, Prof, Department of Mathematics, Manipur University, Imphal.

11. Ramakrishnan, R. **Aggregation of opinions: A fuzzy set approach.** Sathya Sai. Dr M Venkatesulu.

12. Sharma, Veena. **Multiobjective programming and its application in a water resource system.** Roorkee.

13. Srinivasan, S. **A study on certain classes of functions related to S.** Madras.

14. Talaat Mahmood, Nadia. **Optimality conditions and duality in multiple objective programming.** Roorkee.

15. Verma, Chandra Prabha. **Some problems in variation of plates.** Roorkee.

Physics

1. Ahuja, Rajeev. **Electronic properties of noble metals and some FCC transition metals.** Roorkee.

2. Arunmurthy, T Venkata Sesha. **Studies of diamagnetic susceptibilities of a few simple, synthetic and biomolecules.** Krishnadevaraya. Prof V Rama Murthy, Department of Physics, Sri Krishnadevaraya University College, Anantapur.

3. Biswas, Siddartha Krishna. **Molecular genetics of cholaraphage 149 replication.** Calcutta.

4. De, Manoshi. **Ultrasound propagation in solid state plasmas.** Vikram. Dr S K Ghosh, Department of Physics, Vikram University, Ujjain.

5. Indulekha, K. **Magnetic braking as a solution to the angular momentum problem of elliptical galaxies.** IISc.

6. Ingalgi, Maleeksab Fakkeersab. **Dust in the outer layer of stars.** Karnatak. Prof A Peraiah, Indian Institute of Astrophysics, Koramangala, Bangalore.

7. Isaac, Johney. **Photoacoustic investigation of phase transitions in selected solids.** CUST. Dr Jacob Philip, Prof, Department of Physics, Cochin University of Science and Technology, Kochi.

8. Koul, Vijay Kumar. **Some physico-mineralogical and high temperature studies of salal bauxite.** Jammu. Dr S N Khosla, Prof, Department of Physics, University of Jammu, Jammu.

9. Krishnan, V V. **Theoretical and experimental investigations of Nuclear Overhauser Effect in nuclear magnetic resonance.** IISc.

10. Marathe, Yatin. **Dissipative dynamics of classical and quantum systems.** IISc.

11. Rajesh Kumar. **Spectroscopic and acoustics studies on progressive muscular dystrophy and other complex body disorders.** Jamia. Prof Z H Zaidi, Department of Physics, Jamia Millia Islamia, New Delhi and Dr M M Bajaj, Department of Physics and Astrophysics, University of Delhi, Delhi.

12. Roy Choudhury, Souvika. **Positron annihilation studies in CTAB/Water/Hexanol systems.** Delhi.

13. Satyanarayana Murthy, Gudimella Venkata. **Structural relaxation studies on some annealed amorphous magnetic alloys.** Andhra.

14. Seetha, S. **White dwarf pulsators: A study with the whole earth telescope.** IISc.

15. Sen, Srikanta. **Theoretical studies on the conformational transitions in closed supercoiled DNA.** Calcutta.

16. Sharma, Raj Kumar. **A theoretical study of a ternary III-V compound misfield effect device.** Roorkee.

17. Siddarame Gowda, L. **Band spectroscopic studies of 2-atom molecules.** Mysore. Dr B Narasimhamurthy, Reader, Department of Studies in Physics, University of Mysore, Mysore.

18. Soni, Sanjay V. **Effect of dopants on defects and ferroelectric properties of triglycine sulphate (T G S) crystals.** Nagpur. Dr R M Chaudhari, Head, Department of Physics, Institute of Science, Bombay.

19. Sreekanthan, K N. **Growth and characterization of cadmium chalcogenide thin films for active device applications.** Patel. Dr G K Shivkumar, Reader, Department of Physics, Sardar Patel University, Vallabh Vidyanagar.

20. Vadrabade, Someshwar Rudrappa. **Micro-surface studies of some silicate and aluminosilicate crystalline solids.** Nagpur. Dr D R Pande, Lecturer, Department of Physics, Nagpur University, Nagpur.

21. Wankhede, Sangita Premprakash. **Thermo-luminescence: Understanding and applications with reference to alkali halides.** Nagpur. Dr B T Deshmukh, Head, Department of Physics, University of Nagpur, Nagpur.

Chemistry

1. Bagade, Mahendra Bhikaji. **A new trend in the chemistry of oximes isoxazoles and pyrazoles.** Nagpur. Dr B J Ghiya, Department of Chemistry,Institute of Science, Nagpur.

2. Bandyopadhyay, Debabrata. **Studies on natural products.** Calcutta.

3. Bhattacharyya, Subhra. **Studies on the chemistry of some acetogenius of the Indian orchids.** Calcutta.

4. Chatterjee, Debesh Kumar. **Arylazo phenoxy derivatives of organotin compounds.** NBU.

5. Deota, Pradeep Tryambakrao. **Studies in the synthesis of cyclopentanoids.** Baroda.

6. Desai, Shaileshkumar Harshadrai. **Synthesis and evaluation of bisazo dyes derived from 6.6'-methylene bis-quinazolinone.** Patel. Dr (Miss) R G Patel, Reader, Department of Chemistry, Sardar Patel University, Vallabh Vidyanagar.

7. Dutta, Aradhana. **Kinetic studies of polymerization of unsaturated monomers by donor-acceptor complexes.** Dibrugarh. Prof N N Dass, Department of Chemistry, Dibrugarh University, Dibrugarh.

8. Gadh, Ranu. **Metal speciation in the Yamuna river water and sediments.** Roorkee.

9. Isaa, Balagopala Meher. **The studies on Claisen rearrangement of aryl-allyl, prenyl and propargyl ethers.** Andhra.

10. Jain, Basanti. **Structural investigations on flavonoidal and quinonoidal constituents of some** Impatiens **plants.** H S Gour. Dr R N Yadav, Lecturer, Department of Chemistry, Dr Hari Singh Gour Vishwavidyalaya, Sagar.

11. Jain, Jayant Kumar. **Chemical and biochemical studies on some indigenous vegetable seeds.** Durgawati. Dr R K Bajpai, Prof and Head, Department of Applied Chemistry, Government Engineering College, Jabalpur.

12. Jeyaraj, V. **Correlation between composition, metallographic structure and corrosion products of metallic antiquities.** Madras.

13. Krishnamoorthy, Lakshmi. **A study of antioxidants in breast carcinoma with special reference to vitamins and enzymes.** Bangalore. Dr Elizabeth Zachariah, Biochemistry Laboratory, St John's Medical College, Bangalore.

14. Masthan, S Khaja. **Preparation and characterization of promoted and supported ruthenium catalysts.** Osmania.

15. Mehrotra, Anupama. **Studies on the speciation of metals in sludges.** Roorkee.

16. Mohd Akram. **Studies on the relationship between proton, Ca2+ transport and the effects of calcium antagonists in artificial system and in cardiac tissue.** AMU. Dr Firoj Ahmad.

17. Namarta. **Studies on the reactions of Co(II), Ni(II) and Cu(II) beta-diketonates with 2-substituted benzimidazoles.** Jammu. Dr N Kumar, Prof, Department of Chemistry, University of Jammu, Jammu.

18. Nanduri, Srinivas. **A study of the chemical components of the woody tissues of** Azadirachta indica A-Juss **and some observations on the metabolites of the insect,** Trogoderma granarium **Everts.** Sathya Sai. Prof N R Krishnaswamy, Head, Department of Chemistry, Sri Sathya Sai Institute of Higher Learning, Prasanthi Nilayam.

19. Narad, Sandeep. **Physiochemical, microbial and pharmacological studies on some antibiotic, antiseptics and antidiabetic drug complexes with some life essential metals.** H S Gour. Dr K S Pitre, Reader, Department of Chemistry, Dr Hari Singh Gour Vishwavidyalaya, Sagar.

20. Nittala, Vemkata Ramana. **Studies in terpenoids.** Baroda.

21. Ramana Kumar, Ch Siva Sai. **Synthetic, photochemical,**

spectral and de-sulphurisation studies on oligothiophenes and their derivatives. Sathya Sai. Prof N R Krishnaswamy, Head, Department of Chemistry, Sri Sathya Sai Institute of Higher Learning, Prasanthi Nilayam.

22. Rao, Vasanthi R. **Biochemical studies in lymphoma.** Bangalore. Dr Elizabeth Zachariah, Department of Clinical Biochemistry, St John's Medical College, Bangalore.

23. Ray, Animesh. **Studies on the oxidative reactions of triterpenoids.** NBU.

24. Sahu, Sesha Dev. **Studies on distribution and cycling of nutrients in the Bay of Bengal.** Andhra.

25. Sakalkar, Sandhya Govindrao. **Isolation and chemical studies of hemicellulose and lignin materials from Bel tree(stem) and rice straw.** Nagpur. Dr M G Paranjpe, Department of Chemistry, Nagpur University, Nagpur and Dr J D Dhake, Head, Department of Cellulose Technology, Laxmi Narain Institute of Technology, Nagpur.

26. Sampath Kumar, A. **Investigations in stereochemistry and synthetic chemistry.** IISc.

27. Seetha Rama Rao, Kamaraju. **Preparation and characterization of supported chromia catalysts.** Osmania.

28. Shah, Sonal Gulabchand. **Studies in coumarins.** Baroda.

29. Shamsuddin, S. **Studies on the interaction of Pt(IUI) and Pd(II) bipeptide complexes with nucleic acid constituents.** Osmania.

30. Sharma, Archana. **Role of metal ferrocyanides in chemical evolution.** Roorkee.

31. Sridevi, Nadimpalli. **Some kinetic and mechanistic studies on the oxidation of selenium (IV).** Andhra.

32. Subba, Gyan Chandra. **Chemical investigation of medicinal plants of Darjeeling District.** NBU.

33. Sundar Manoharan, S. **Combustion synthesis and properties of fine particle spinel, perovskite and K2 NiF4 type oxides.** IISc.

34. Suseelan, M S. **Contribution to the chemistry of 1, 3, 5-triazines.** Kerala. Dr C P Joshua, Prof, Department of Chemistry, University of Kerala, Trivandrum.

35. Thokdar, Tarit Kumar. **Studies on the analytical applications of some organic reagents as ligands.** NBU.

36. Vijayalakshmi, J. **Some reactions of polymers: Antioxidant action on rubber.** Madras.

37. Walia, Seema. **Investigations on solution equilibria involving biologically active hydrazones and metal ions and evaluation of their thermodynamic functions.** Delhi.

Earth Sciences

1. Bhaskara Rao, Veluvolu. **Forminiferal ecology of the mangroves of the Gautami-Godavari river and the Tekkali Creek, East Coast of India.** Andhra.

Engineering & Technology

1. Basheshwar Prasad. **Studies on the kinetics of garden type-I fermentation using immobilized whole cells in different bioreactors.** Roorkee.

2. Biswas, Dipa. **Catalytic hydrocracking of heavier petroleum fractions under high pressure.** Calcutta.

3. Chaudhari, Sudhir Reva. **Development of NaCl: Ba(T) and KCl: Ba(T) phosphors as solid state alpha radiation TL-dosimeters.** Baroda.

4. Chidambaram, R. **Studies in materials science and crystallography.** D.Sc. IISc.

5. Cleetus, M. **Improved algorithms for automatic detection and tracking in radar systems.** IISc.

6. Darbari, Hemant. **An efficient knowledge representation and acquisition technique for intelligent systems.** Roorkee.

7. Ganesan, R. **Response, stability and catastrophes of stochastically parametered structural systems.** IISc.

8. Garg, Vishwa Nath. **Development of dynamic models of aggregate planning.** Devi Ahilya. Dr A K Chitle, Prof and Head, Shri Govindram Sekaria Institute of Technology and Science, Indore.

9. Govinda Raju, N. **Asperity interaction effects in elastic contact between nominally flat rough surfaces.** IISc.

10. Jag Pal Singh. **Studies on the micro structure, mechanical properties and wear behaviour of squeeze cast Al-Al2 O3-MgO particulate MMCs.** Roorkee.

11. Khan, Iqraz Nabi. **Behaviour of retaining walls with soil reinforcement.** Roorkee.

12. Kuldip Singh. **Studies on the effect of emulsifiers and stabilizers on the rheological characteristics and sensory quality of plain ice cream.** PAU.

13. Murthy, P V R. **A study of the implementation of speculative parallelism in functional languages.** IISc.

14. Nagarajan, V S. **Structural and related investigations of gel-derived ZrO2 based ceramic composites.** IISc.

15. Navaneethan, P. **BIPEDS: A class of self-routing permutation networks for array processing systems.** IISc.

16. Palaniappan, A B. **Numerical modelling of aggradation and degradation in alluvial streams.** Roorkee.

17. Puri, Girish. **Influence of soil fertility status and primary nutrients application on chemical composition and oil contents in mustard,** Brassica campestris. Durgawati. Dr R K Bajpai, Prof and Head, Department of Applied Chemistry, Government Engineering College, Jabalpur.

18. Ram Kumar. **Investigation of tensile stresses around the Hull in concrete gravity dams.** Roorkee.

19. Ramamohana Rao, S. **Study of some thermal design problems in high density SMT/hybrid micro-circuit assemblies.** IISc.

20. Ramananda Rao, K. **Optimal synthesis of shell and tube heat exchangers.** IISc.

21. Ravi, M R. **Multidimensional modelling of uniflow scavenging in two-stroke engines.** IISc.

22. Saha, Banani. **Petrinets and system theory: Some correlative studies.** Calcutta.

23. Seshadri, R. **Centrifugal splat quenching and secondary atomization of titanium alloys (Ti-6Al-4V and Ti-6.5Al-3.3Mo-1.6Zr-O.3Si).** IISc.

24. Sharma, Suresh Prasad. **Investigations on thermal performance characteristics of solar air heater with packed absorber.** Roorkee.

25. Sivakumar Babu. **Engineering behaviour of residual soils in tropical environment.** IISc.

26. Sreedaran, B R. **Quantification of effect of significant factors on settlement controlled design bearing pressure.** IISc.

27. Subramanian, C. **Studies on hetero-redundant architecture for the input processing sub-system and the boundary controller of a digital flight control computer.** IISc.

28. Yogananda, M R. **The analysis of unreinforced brick masonry vaults.** IISc.

MINISTRY OF HUMAN RESOURCE DEVELOPMENT

DEPARTMENT OF EDUCATION

Applications are invited from the Indian Nationals residing in India for the award of Indian Government Scholarships, 1992-93, according to the following schedule:-

1. SCHOLARSHIPS IN THE FIELD OF RESTORATION ARCHAEOLOGY AND ITALIAN LANGUAGE AND LITERATURE

CATEGORY:'A': Two scholarships of Nine month's duration each for pursuing the following courses starting from 7th October, 1992 (i) Restoration of Paintings on canvas and wood. (ii) Restoration of Antique wood. (iii) Restoration of Ceramics and Stone. (iv) Restoration of Books, Drawings and Prints. (v) Restoration of Fabrics, Tepestry and Carpets.

CATEGORY 'B': Two scholarships of Three month's duration for pursuing a training programme in Methods and Techniques in Archaeology with particular reference to Computer applications and Data Management in Archaeology starting from 1st October, 1992.

Requirements for Categories A & B: (a) At least a bachelor's degree in the related discipline from a recognised university or institution. (b) A sponsorship letter by a recognised University, institution or Government department dealing with these subjects. (c) Rudimentary Knowledge of Indian language. If eligible candidates do not fulfil this requirement, then the Italian Embassy Cultural Centre will organize language courses for them.

2. SCHOLARSHIPS FOR ITALIAN LANGUAGE AND LITERATURE COURSES:-

CATEGORY: 'C': Two scholarships of Ten month's duration each, for pursuing one month-long 'Intensive Intermediate Course' and nine month long Advanced Course of Indian Language & Literature staring from 2nd September. 1992.

Requirements for Category 'C': (a) Preferably a Master's degree from a recognised University (b) Good knowledge of Italian (evidence required). (c) Teaching experience at the school or University level will be preferred.

CATEGORY 'D': Two scholarships of Three month's duration each for pursuing the 'Regular Intermediate Course' of Italian Language & Literature" starting from 1st July, 1993.

Requirement for Category 'D': (a) Bachelor's degree from a recognised University. (b) Sufficient knowledge of Italian (evidence required). (c) Preference will be given to candidates who never attended this Course in Italy.

Scholarships under Category-D will be renewed if the candidates pass the exam. and wish to continue the 'Advanced Course' in the same subject.

Scholarships covered under Category-A have duration of two academic years. The candidates will be allowed to pursue the course upto its completion if their performance is good, since the scholarship is renewable for the next academic year.

Allowances: Amount of each scholarship will be 800.000 Italian Lire per month, inclusive of medical insurance benefits.

Passage Cost: Pre-paid airtickets (tourist class) will be given to the holders of scholarships of at least 8 month's duration for travel Delhi-Rome. Return tickets for travel Rome-Delhi will be issued to them only after the successful conclusion of their courses and on presentation of documentary evidence that they have passed the requisite examinations. No contribution will be given for any excess baggage or for travel from place of residence in India to Delhi and vice-versa.

No travel allowance will be given by the Indian Government to the candidates selected for the scholarships of less than 8 month's duration. However, the Government of India may consider paying the passage cost from Delhi to Rome and back subject to the availability of funds and the candidate income if employed for atleast two years or if the parents/guardian's income (if dependent on parents or guardians) is less than Rs.1000/- per month (old basic pay) from all sources after allowing admissible standard deductions in case of salaries persons and if he/she fulfils other conditions prescribed in this behalf.

Last Date: Applications in duplicate complete in all respects should reach **Deputy Educational Adviser, E.S.5 Section, Ministry of Human Resource Development, Department of Education, A-1/W-3 Curzon Road Barracks, Kasturba Gandhi Marg, New Delhi-110001, by 17th February, 1992**, alongwith the following documents: (i) Two letters of introduction from Indian Academic Authorities. (ii) Documentary evidence of the candidate's knowledge of Indian Language. (iii) Medical Certificate from any R.M.P. showing the candidate's good general health and mental and physical fitness to undertake any course of study abroad. (iv) Attested copies of all degrees/certificates/diplomas starting from, Matriculation/Hr. Secondary showing the candidate's qualifications and date of birth. (v) A recent passport size photograph affixed/pasted on right hand corner of each application form. (vi) A No Objection Certificate from the employer. (if employed), to the effect that he/she will be relieved in the event of his/her final selection; and that he/she will be taken back on his/her return from Italy.

NOTES: (i) The candidates who have been abroad on scholarship or on their own for more than six months are eligible to apply only if they have stayed in India for three years after their return from abroad. However, this condition is not applicable in case of the candidates who have gone abroad for pursuing Intermediate Course of Italian Language & Literature. (ii) Only interested and eligible candidates may apply. (iii) Candidates who are abroad at present need not apply. (iv) Applications received late will not be considered. (v) Applications giving false informations and applications without signatures of the candidates will be cancelled. (vi) In case no interview letter is received by the applicant upto 15th March, 1992 it may be presumed that he/she has not been found eligible and no correspondence in this regard will be entertained. (vii) In case no Division/Class is awarded and only grading is done, the conversion formula adopted may be mentioned. Exact percentage of marks should be mentioned. (viii) Employed persons may forward their applications through their employers alongwith their No Objection Certificates. However, advance applications will be considered but sponsorship and No Objection Certificate will have to be produced at the time of interview. (ix) The Ministry will not be responsible for any postal delay. (x) The applicants must indicate the name of Course/Courses and their categories on the top of the application format.

APPLICATION FORMAT

Name of Course-
Category-

Affix a
Recent
Passport
Size Photograph

1. Name of the Candidate (In Block Letters)
2. Father's name, occupation and his address
3. Candidate's Mailing Address
4. Candidate's Permanent Address
5. a) Date of Birth (In words and figures)
   b) Place of Birth
6. Whether a member of SC/ST. Attach a certificate from the competent authority but not lower in rank to an S.D.O./S.D.M.
7. Academic record starting from High School/Hr. Secondary.

Name of the Board University/ Institution	Exam(s) Passed	Year of Passing	Division/ Class with position, if any	Percentage of marks obtained & position, if any	Subject taken

(In case no Division/Class is awarded and only grading is done, the conversion formula adopted may be mentioned. Please attach attested/photostat copies of academic record with your application).

8. a) Present employment with date of appointment, designation and the name and address of the employers.
   b) Nature of work in the employment.
9. a) Whether application is sponsored or not
   b) Whether No Objection Certificate attached or not.
10. Have you been abroad, if so give full particulars of the country and the period. Also mention year of return to India.
11. Relevance of the proposed programme of study/training related to
    i) the present work engaged in
    ii) future plans/prospects after the proposed studies/training.
12. Any other Information.

Place
Date

(Full signature of Candidate)

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Advt. No. 7/92 **Last Date : 15.03.1992**

REQUIRES

Applications are invited on prescribed form for the following faculty position:

Sl.No.	DEPARTMENT	PROFESSOR	ADDL. PROF.	ASSOC. PROF.	ASSTT. PROF.
1.	Cardiovascular Surgery (CVTS)	–	–	–	1
2.	Endocrinology (Med.)	1	1	1	–
3.	Nephrology	1	–	1	1
4.	Neurology	1	–	2	–
5.	Radiology	1	1	1	–
6.	Transfusion Medicine	1	–	1	–
7.	Urology	–	–	1	–
8.	Nuclear Medicine	–	1	–	–
9.	Opthalmology (Neurosurgery)	–	–	–	1

ESSENTIAL QUALIFICATION & EXPERIENCE: Medical candidates should have completed 14,10,06 and 03 years of service after postgraduation in recognized teaching institution for Professor, Additional Professor, Associate Professor and Assistant Professor respectively. Non-medical candidates should have teaching experience of 12,9,6 and 3 years respectively after Ph.D. degree. D.M./M.Ch. qualifications and teaching experinece are desirable as per MCI recommendations.

UPPER AGE LIMIT: 50 years, relaxable for Government Servants. Scheduled castes and Scheduled tribes candidates by 5 years or otherwise exceptionally qualified candidates.

DESIRABLE QUALIFICATION & EXPERIENCE:

FOR Sl. Nos. 2,3 &4 : Candidates should have M.D./D.N.B. in Medicine/Paediatrics.
FOR Sl.No. 5: Those with experinece or specialization in Gastro/Renal/Neuro will be given preference.
FOR Sl.No. 8: Preference will be given to those who have experience in Renal Transplantation and Renovascular Surgery.
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PAY-SCALE :	FOR PROFESSOR	Rs. 5900-200-7300	Plus NPA for Medically qualified candidates.
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	FOR ASST. PROF.	Rs. 3500-125-4500	

GENERAL CONDITIONS

1. Incomplete & applications received after last date will not be considered and treated as rejected.
2. Director reserves the right to reject any or all applications without assigning any reason.
3. Reservation will be as per rules of Government.
4. In case of non-availability of suitable candidates for higher posts, candidates may be offered lower position, in that particular speciality by down grading the higher post.
5. Persons in employment should send their applications through proper channel. However advance copy will be accepted.
6. Exceptionally qualified candidates having meritorious academic records or specialized experience may be given advance increments on the recommendation of the Selection Committee.
7. The number of posts indicated above is provisional and subject to change without prior notice.
8. Application form may be obtained from Executive Registrar of the Institute on payment of Rs. 25/- through Bank Draft in favour of Director, SGPGI, Lucknow, accompanied with a stamped (Rs. 13/- only), self-addressed envelope (size 10" by 12").
9. For candidates from abroad Bio-Data on plain paper can be submitted and last date for these applicants will be **30.03.1992.**

DIRECTOR

OSMANIA UNIVERSITY

Hyderabad - 500 007

ADVERTISEMENT No. 2/92

Dated: 24th January, 1992

Applications in the prescribed form together with the registration fee of Rs.10/- payable through IPO/Demand Draft (M.O. is not acceptable) drawn in favour of the Registrar, OU, are invited for the following posts in the University Service so as to reach the undersigned in person or by post on or before **27th FEBRUARY, 1992:**

Sl. No.	Department	Reader	Lecturer
	GROUP-I		
1.	English	2	2
2.	Linguistics	–	1
3.	Philosophy	1	–
4.	Economics	2	2
5.	History	1	2
6.	Geography	–	1
7.	Business Management	1	1*
	GROUP-II		
8.	Astronomy	2	2
9.	Botany	–	1
10.	Biochemistry	1	–
11.	Institute of Genetics	1	1
12.	Geophysics	1	–
13.	Mathematics	–	2
14.	Physics	–	2
15.	Zoology	–	1
	GROUP-III		
16.	Civil Engineering	–	2
17.	Electrical Engineering	–	1
18.	Computer Science & Engineering	3	2
19.	Mechanical Engineering	–	1
20.	Mining Engineering	2	2
21.	Technology	–	1

* Consequential Vacancy, if any.

PAY SCALES : Reader ... 3700-5700
Lecturer ... 2200-4000

AGE: (as on last date of receipt of applications):
Reader ... Not more than 40 years
Lecturer ... Not more than 35 years

Note:

i. Age limit does not apply to the employees of this University.

ii. Relaxation in age to the extent of five years shall be granted to the candidates belonging to SCs, STs and BCs.

iii. Relaxation in age to the extent of five years also be granted to the teachers who have put in at least five years of service in any of the college affiliated to the Osmania University.

RESERVATIONS: 15%, 6% and 25% reservations are made for the candidates belonging to Scheduled Castes, Scheduled Tribes and Backward Classes respectively for all the posts.

The number of posts reserved for various categories (including backlog vacancies is as under:-

Category		OC	SC	ST	B.Cs.			
					A	B	C	D
Group-I	Reader	3	18	8	1	–	–	2
	Lecturer	4	8	8	1	1	–	1
Group-II	Reader	3	8	8	–	1	–	1
	Lecturer	5	4	7	–	–	–	2
Group-III	Reader	3	4	3	–	1	–	–
	Lecturer	5	4	3	–	1	–	1

Application forms together with the details of qualifications and other conditions can be had from the Director, Department of University Press & Publications, Osmania University, Hyderabad- 500 007 on payment of Rs.10/- (Ten only) in person or by IPO/Demand Draft together with the required postal charges for ordinary registered post made payable to the Director and by sending a self-addressed envelope of $14\frac{1}{2}$ X $26\frac{1}{2}$ cms.

REGISTRAR

CENTRAL SCIENTIFIC INSTRUMENTS ORGANISATION

(Council of Scientific and Insdustrial Research)

Sector -30, Chandigarh-20

ADVERTISEMENT NO. 1/92

Applications are invited for the following posts in Central Scientific Instruments Organisation, Chandigarh. The amount shown within brackets against the pay scales are the total emoluments on the minimum of the pay scale :-

1. POST NO. 1/1 : Scientist E-1 (One Post)

Pay Scale: Rs. 3700-125-4700-150-5000 (Rs. 6305)

Qualifications : Ist Class B.E. in Electronics/Ist Class M.Sc in Physics with Electronics with 12 years of experience OR M.Tech/M.E. in Electronics/Material Science with original work as evidenced by patents or publications and evidence of leadership with about 10 years of R&D experience. Those having Ph.D in Physics and having 10 years of R&D experience in Solid State Device Fabrication may also apply.

2. POST NO. 1/2 : Scientist - C (Three Posts)

Pay Scale : Rs. 3000-100-3500-125-4500 (Rs. 5420)

Qualifications: Ist Class B.E. In Electronics with 6 years of experience OR M.Tech/M.E. in Electronics/Material Science with 4 years of experience. Those having Ph.D in Physics and having 2 years of experience in Solid State Device Fabrication may also apply. Minimum years of experience relaxable only in exceptional cases.

The number of posts may vary.

For detailed terms and conditions please refer to Central Scientific Instruments Organisation Advertisement No. 1/92 published in the Employment News/Rozgar Samachar dated **8.2.1992.**

Last date for the receipt of application in the prescribed form complete in all respect is **20th March 1992.**

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REGISTRAR

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   Age Limit - 45 years.

2. **Production Assistant;** Rs.1640-2900; Graduate or Diploma from FTII, Pune in cinema or allied arts or any equivalent qualification from any other institution with at least 55% marks or an equivalent grade. Proficiency in English. Desirable: At least 2 years' practical experience.

   Age Limit - 30 years

3. **Cameraman (grade II);** Rs.1640-2900; Matric or equivalent with 55% marks. Diploma in Cinematography or Production from a recognised Institution. Two years' experience in the field of video &/or film camera operation at studio & at outdoors. Desirable: Knowledge of English & Hindi & familiar with TV & media.

   Age Limit : 35 years

Applications should contain the following details: (a) Full Name in BLOCK LETTERS (b) Mailing address (c) Date of birth (d) Father's/Husband's name (e) Details of language you can read, write or speak (f) Details of school and college education including subjects taken, division/marks obtained in each subject etc.(g) Complete service details including designations, pay scale, reasons for leaving jobs (where applicable) etc. (h) Minimum salary acceptable (i) Awards/Commendations obtained for outstanding services (j) whether compulsorily retired or dismissed or convicted at any time (k) any other information that the candidate may wish to furnish.

Those employed in State/Central Government departments/Public Sec-

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SARDAR PATEL UNIVERSITY

Vallabh Vidyanagar-(388120)

NOTIFICATION NO:EST (4)-1991-92

Applications are invited in the prescribed form which can be had from the University Office on payment of Rs.20/- in cash or by Indian Postal Order for the following posts so as to reach the undersigned on or before **29.2.1992.**

NOTE:- ONLY ONE COPY OF THE MARKSHEETS BE ATTACHED WITH THE PRESCRIBED APPLICATION FORM.

Sr.No. 1	Name of the Posts 2	No. of the posts 3
(A)	**PROFESSOR (Scale : Rs.4500-7300)**	
	(1) Physics (with Specialisation in Photo Conversion/ digital electronics/atomic and molecular Physics/Diamond Science)	1
	(2) Structural Biology/Morphogenises	1
	(3) Botany	1
(B)	**READER** (Scale Rs.3700-5700)	
	(1) Physics (Thin Films/Solid State Physics/ Solid State Electronics)	1
	(2) Physics (X-Rays)	1
	(3) History	1
	(4) Electronics (For M.Sc. Electronics Course)	1
	(5) Library Science	1
	(6) Hindi	2
	(i) Linguistics	
	(ii) Modern Literature & Principles of Western Literary Criticism	
	(7) M.B.A.(Organizational Behaviour)	1
	(8) Education (Comparative Education or Philosophy of Education)	1
(C)	**LECTURER** (Scale Rs.2200-4000)	
	(1) Gujarati	1 (Reserved for SC/ST)
	(2) Chemistry (Theoretical)	1
	(3) Inorganic Chemistry	1 (Reserved for SC/ST)
	(4) Sanskrit	1
	(5) Commerce (Financial Management)	1
	(6) Hindi	1
	(7) M.B.A. (M.C.A. preferably with management exposure)	1
	(8) M.B.A. (Written analysis and Communication)	1
(D)	**NON-TEACHING POSTS:**	
	(1) Senior Scientific Officer (Scale Rs. 3000-4500) (For University Science and Instrumentation Centre)	1
	(2) Assistant Registrar (Scale Rs.2200-4000)	1
	(3) Machine Operator (Scale Rs.1400-2300) (For Computer Centre)	1
	(4) Compounder (Scale Rs.1200-2040) (For University Health Centre)	1

All the posts carry the benefit of D.A., G.P.F., Gratuity and Pension as per University rules.

Detailed qualifications will be supplied alongwith prescribed application forms.

C.M. Patel
I/C REGISTRAR

tor/Autonomous bodies may send an advance copy of their applications directly so as to reach before the last date and route their original applications through proper channel.

Application typed alongwith PHOTOGRAPH should reach the Chief Administrative Officer at the above address latest by **25TH FEBRUARY, 1992.**

REGIONAL MEDICAL RESEARCH CENTRE FOR TRIBALS

(INDIAN COUNCIL OF MEDICAL RESEARCH, NEW DELHI)
R.M.R.C. COMPLEX,
Near Medical College, Nagpur Road,
Jabalpur-(M.P)-482 002
Advt. No. JBP/RMRC/Advt-1/92/369
dt. 23/1/92

POSTS AT SL.3 TO 8 ARE ON SPECIAL RECRUITMENT DRIVE FOR SC/ST CANDIDATES

Applications are invited by the Director, RMRC, for filling up the following posts of the Centre.

1. SECTION OFFICER (STORE) - 1 POST (GENERAL)

Pay:Rs.2000-60-2300-EB-75-3200-100-3500

Qualification & Experience

Essential: Graduate in any subject

Desirable: Degree/Diploma in Materials Management/Purchase Management/Store Keeping apart from Experience of general administration & Personnel Service matters.

Experience: Eight years' experience as Store Assistant in the Grade of 1400-2300.

Age: 35 years

2. SENIOR STENOGRAPHER (ENGLISH) - 1 POST (GENERAL)

Pay : Rs.1400-40-1600-50-2300-EB-60-2600.

Qualification: Graduate in any subject with a Speed of 120 w.p.m. in Shorthand (English) and 40 w.p.m. in typewriting (English).

Age: Below 30 years.

3. RESEARCH OFFICER (MEDICAL) - 1 POST - (SC)

Pay : Rs. 2200-75-2800-EB-100-4000

Qualification & Experience

Essential: M.B.B.S.

Desirable: 3 years' research/.teaching experience or M.D. in Community Medicine, Pathology, Genetics, Medicine or in allied subject.

Age: Below 45 years (SC candidates allowed relaxation as per the Rules of Govt. of India).

Job Requirements: To participate in planning and implementation of Research in Tribals Survey to detect health hazards & to formulate operational studies including laboratory based studies.

4. FIELD INVESTIGATOR - 2 POST - ST(SC Candidates may also apply)

(Chemistry/Biochemistry/Microbiology/Immunology/Nutrition/Genetics)

PAY : Rs. 1400-40-1800-EB-50-2300

Qualification & Exp.: Postgraduate in relevant subject with one-year field experience.

Age: Below 30 years.

Job Requirements: The Job requires extensive travelling in rural areas of Madhya Pradesh and Country for collection of data and also Laboratory based work.

5. JUNIOR STENOGRAPHER (ENGLISH) 1 POST- ST(SC candidates may also apply) Pay: Rs. 1200-30-1060-EB-40-2040

Qualification & Exp.: Matric or equivalent with a speed of 100 w.p.m. in English shorthand and 40 w.p.m. in English Typewriting.

Age: Below 25 years.

Job Requirements: Will require to attend extensive typing work of Scientific and administrative matters. Will require to take dictations and typing. Will require to draft letters, do retrieving filling etc.

THE UNIVERSITY OF JODHPUR

(Establishment Section)

No.JDR/U/ESTT/91/14209 **December 18,1991.**

ADVERTISEMENT NO. 168/219/91-92
LAST DATE: 20.02.1992

Applications are invited on the prescribed form obtainable from the office of the Registrar, University of Jodhpur, on payment of Rs. 10/- either in cash or through crossed Indian Postal Order payable in favour of Registrar, University of Jodhpur, alongwith self-addressed envelope of 27x12 cms. size affixing postal stamp of Rs. 8/- for the following posts so as to reach the undersighed on or before **20-02-1992 upto 4.00 p.m.** Applications received after due date shall not be entertained.

S. No.	Name of Post	No.of Post	Category			Pay Scale
			Gen.	SC	ST	
1.	Librarian	1	1	–	–	4500-150-5700-200-7300 (UGC)
2.	Assistant Librarian	2	1	1	–	2200-75-2800-100-4000 (UGC)
3.	Tabla Accompanist Grade 'B'	1	–	1	–	950-20-1150-25-1400- 30-1640-40-1680
4.	Harbarium Asst	1	1	–	–	--do--
5.	Technicians Grade 'B'	27	15	7	5	--do--
6.	Estate Officer	1	1	–	–	2200-75-2800-100-4000
*7.	Technical Asst 2 Electrical, 4 Electronics	6	3	2	1	1640-60-2600-75-2900.
8.	Programmer Assistant (one for MCA and one-for Computer Science)	2	1	1	–	2200-75-2800-100-4000.
9.	Draftsman (Plan) (Computer Science)	1	1	–	–	1200-30-1560- 40-2000-50-2050.
10.	Laboratory Asst	7	4	2	1	950-20-1150-25-1400-30- 1640-40-1680.

NOTE:

(1) Details of Qualifications alongwith General Condition etc. will be supplied to candidates alongwith application forms.

(2) The University reserves the right to increase or decrease the number of posts. The University also reserves the right not to fill any or all posts if deemed necessary.

***Two posts in Electrical Engg.**
Two posts in Electronics.
One post in Computer (Electronics)
One post in Computer Science & Engg.

Doongar Dan
REGISTRAR

6. **DATA ENTRY OPERATOR - 1 POST - ST**

Pay : Rs. 1200-30-1560-EB-40-2040

Qualification & Exp.: Graduate with Certificate/Diploma from a recognised Institute in Data Entry Operator with one-year experience in a reputed organisation in Computer.

Age: Below 30 years.

7. **INSECT COLLECTOR - 2 POST - ST**(SC Candidates may also apply)

Pay : Rs. 950-20-1150-EB-45-1400

Qualification & Exp.: Higher Secondary or equivalent with two years' experience in field work including larvae collection sputum collection, blood collection etc. People who have worked in the field of Filaria, T.B. etc. and who have also worked in collection tabulation and analysis of data will be given preference. Any other kind of field/Laboratory work may also be entrusted as appropriate to his qualifications & Experience.

Age: Below 25 years.

8. **FIELD ASSISTANT - 1 POST - ST**

Pay : Rs. 975-25-1150-EB-30-1540

Qualification & Exp.: Intermediate or equivalent subject with one-year field experience.

Age: Below 25 years.

GENERAL CONDITIONS

1. SC/ST candidates allowed relaxation as per the rules of the Government of India.
2. Allowances as per Central Government rules are admissible on the above scales.
3. Benefits of pension admissible.
4. Private Practice is not allowed.
5. N.P.A. as per the rules of the Council to Medical Graduate only.
6. All SC/ST candidates called for interview will be paid IInd class Railway Fare as per the rules of Council.
7. Applications from the employees working under the Central/State/Semi Government and Government controlled undertakings should be received through proper channel.
8. Application Forms and other details only for the posts of RESEARCH OFFICER (S.L. No.3) are obtainable from the Director at the above address to whom the complete application forms should be sent to on or before 16.3.1992.
9. For all remaining posts, applications on Plain Paper with copies of certificate regarding age, educational qualification, caste (in case of SC/ST) along with a passport size photograph should be sent to undersigned so as to reach on or **BEFORE 28.2.1992** to address given below:-

*THE DIRECTOR, REGIONAL
MEDICAL RESEARCH CENTRE
FOR TRIBALS (ICMR) RMRC COMPLEX P.O. GARHA, NAGPUR ROAD,
JABALPUR - 482003 (M.P.)

10. Incomplete and late applications will not be entertained.

DIRECTOR

CH.CHARAN SINGH HARYANA AGRICULTURAL UNIVERSITY HISAR

ADVERTISEMENT No 2/92

Applications are invited for the following temporary posts on prescribed form obtainable along with details of qualifications and other conditions from the Assistant Registrar (R) by sending self-addressed unstamped envelope of size (23 x 10 cm) along with IPO of Rs. 5/- for posts at Sr.Nos. 1 to 3 and Rs. 2/- for posts at Sr.Nos. 4 to 5 in the name of Assistant Registrar (E) payable at HAU, Hisar post office. The said application form duly completed with prescribed fee should reach the Registrar, CCSHAU, Hisar - 125 004 by **7.3.92** (22nd March, 1992, for candidates residing abroad). Inservice candidates should apply through proper channel.

1. **Professor/equivalent in Rs. 4500-7300.**
   - (a) One Professor each in Family Resource Management, Forestry, Zoology, Parasitology, Vety. Physiology.
   - (b) Regional Director, R.R.S., Uchani.
   - (c) Associate Director (Farm Advisory Service).
2. **Associate Professor/equivalent in Rs. 3700-5700.**
   - (a) One Associate Professor each in Andrology, Toxicology, Child Development, Silviculture, Meat Technology, Computer Science, Horticulture (Buria),
   - (b) Two Coordinators (Jind & Kurukshetra).
   - (c) Research Officer (APP).
   - (d) Scientist (Family Resource Management).
3. **Asstt. Professor/equivalent in Rs.2200-4000.**
   - (a) One Asstt. Prof. each in Electrical Engg., Agril. Economics & Farm Planning (Nilokheri), *Farm Forestry (Balsamand), Bio-Chemistry/Microbiology (Kaul),*Farm Machinery & Power, Extension Education, *Vety. Pharmacology, *Psychology, Two Farm Forestry (Bawal & Kharindwa).
   - (b) *Assistant Meteorologist.
   - (c) *District Extension Specialist (Home Science) (Bhiwani).
   - (d) One Assistant Scientist each in Agril. Engg., (Soil and Water Engineering) at Balsamand, *Vety. Microbiology (Immunology), Extension Education.
   - (e) *One Asstt. Chemist/ Asstt. Analyst(Chemistry).
   - (f) One Asstt. Residue Chemist (Chemistry).
   - (g) One Asstt. Soil Scientist.
4. **Artist in Rs. 1400-2600.
5. ***Junior Programme in Rs. 1400-2600.

Note: * Posts are reserved for Scheduled Caste candidates. In case suitable candidates are not available the post will be filled from amongst General category candidates.

** Post is reserved for E.S.M.

*** Post is reserved for ESM, but if suitable candidate belonging to this category is not available the post shall be filled from the candidates belonging to General category.

REGISTRAR

PUNJABI UNIVERSITY PATIALA

Advt No. 137/PRO/Rect., January 31, 1992

Applications on prescribed form are invited for the following posts so as to reach the Deputy Registrar (Establishment) by **27th February, 1992 :**

1. **PROFESSORS:** Computer Science and Applications-1 Physics-1, Development of Punjabi Language -1

SPECIALIZATIONS:

Computer Science & Applications : Preferably in one of the following areas :

Theoretical Computer Science/Computer Graphics/Artificial Intelligence/DBMS/Software Engineering/Computer System/Modelling and Performance Evaluation/Distributed Computing/Parallel Computing/Fifth Generation Computer Systems/Operating System.

Physics : Experimental/Theoretical Physics

Development of Pbi.Language :

ਪੰਜਾਬੀ ਭਾਸ਼ਾ ਵਿੱਚ ਖੋਜ, ਸੰਪਾਦ
ਅਨੁਵਾਦ, ਕੋਸ਼ਕਾਰੀ ਦੇ
ਵਿਸ਼ਿਸ਼ਟ ਖੇਤਰਾਂ ਵਿੱਚ ਯੂਨੀਵਰ
ਸਿਟੀ ਪੱਧਰ ਦਾ ਘੱਟੋ ਘੱਟ
10 ਸਾਲਾ ਦਾ ਤਜਰਬਾ। ਇਸ
ਤੋਂ ਇਲਾਵਾ ਮਾਧਿਅਮ
ਪਰਿਵਰਤਨ ਸਕੀਮ ਅਧੀਨ ਵਿਸ਼ਿਸ਼ਟ
ਵਿਗਿਆਨਾਂ ਦੇ ਖੇਤਰ ਵਿੱਚ
ਮੌਲਿਕ, ਸੰਪਾਦਨ ਤੇ ਪ੍ਰਕਾਸ਼ਨ
ਦਾ ਵੀ ਲੋੜੀਂਦਾ ਤਜਰਬਾ
ਰੱਖਦਾ ਹੋਵੇ। ਪੰਜਾਬੀ ਵਿਕਾਸ
ਦੇ ਵਿਸ਼ਿਸ਼ਟ ਖੇਤਰਾਂ, ਜਿਵੇਂ
ਸਾਹਿਤ, ਸਮਾਜਿਕ ਵਿਗਿਆਨ.

ਵਿਗਿਆਨ, ਮਾਨਵਿਕੀਆਂ ਵਿੱਚ
ਉਚ ਪਾਠਾਂ ਦਾ [illegible]
[illegible] ਕੀਤਾ ਜਾਵੇ।

2. **READERS:** Geography-2, Anthropological Linguistics-2, Economics-2, Business Management (Damdama Sahib)-2 (includes 1 leave vacancy upto 13.4.1992), Computer Science (Damdama Sahib)- 1, Philosophy-1, History-1, Mahtematics-1, Astronomy and Space Science-1, Physics-1

   SPECIALIZATIONS:

   Geography: First post : Open

   2nd post : Political Geography/Population Geography.

   Anth. Ling. : Theoretical Linguistics/Stylistics/Socio-linguistics.

   Economics: i) Quantitative Economics

   ii) Economics of Agriculture

   iii) Economic Theory

   Business Mgt. (Damdama Sahib) : Marketing Management/Production Management/Personnal Management/Quantitative techniques

   Computer Science (Damdama Sahib) : Data Base Management.

   Philosophy: Contemporary Philosophy and/or Social and Political Philosophy and/or Ethics

   History: Non-Indian History/Modern Indian History/Medieval Indian History/Punjab History.

   Mathematics: Elasticity, Continuoum Mechanics, Differential Geometry, Topology, Complex Analysis

   Astronomy and Space Science: One of the following:

   i) Space Physics

   ii) Remote Sensing

   iii) Computer & Image Processing in Astronomy

   iv) CCD/Fabry-Perot-Interferometer systems in Laboratory

   v) Solar Physics

   vi) Cosmology

   Physics: Experimental/Theoretical Physics.

3. **LECTURERS:** Economics-3, Economics (CC)-3, History (CC)-2, Punjabi (CC)-1, English (CC)-1, Religious Studies-cum-Punjabi. (C)-1,

   Management (Damdama Sahib)-2 (Temporary), Persian-1 (Temporary), Astronomy and Space Science-1, Psychology-1, Education and Community Services-1 (upto 21.8.93), Geography-1, Law-2, Physics- 2

   SPECIALIZATIONS/DESIRABLE QUALIFICATIONS:

   Economics: 1. Money & Finance

   2. Economic History

   3. Political Economy

   4. Quantitative Methods & Computer applications

   5. Economic Theory

   6. Applied Economics

   Economics (CC) : Micro Economics Theory OR Money & Banking OR Economics of Women Studies OR Economics of Industry OR Economics of Development & Planning OR Economics of Agriculture

   History (CC) : History of Medical India OR

   History of Modern India

   Punjabi (CC): **Desirable:** Candidates who are M.A. in English/Hindi/Sanskrit OR B.A. (Hons) OR possesses an equivalent degree in these subjects, will be given preference.

   English (CC): Modern English Poetry/Modern American Poetry/Modern Drama/Commonwealth Literature

   Religious Studies-cum-Punjabi (CC) : Candidates should have passed-

   i) M.A. Religious Studies and M.A.Punjabi and should have obtained 55% marks atleast in one of these two exams.

   OR

   ii) M.A (Punjabi) with 55% marks and M.Phil

   OR

   iii) M.A. (Punjabi) with 55% marks and advance Diploma from Sikh Missionary College.

   Business Mgt.(Damdama Sahib) : Industrial Economics/Personnel & Organisational Behaviour/Production Management/Finance.

   Persian : Modern Persian. Preference will be given to those who also possess M.A. degree in Arabic.

   Astronomy & Space Science: Theoretical Stellar Atmospheres OR Stellar Physics (Thermal and Nuclear Physics).

   Note: M.Sc. in Astronomy, Space Physics, Physics, Mathematics shall be the relevant subjects.

   Psychology: Experimental Psychology/Intelligence/Criminal Behaviour

   Physics: i) Theoretical Solid State Physics.

   ii) Experimental Nuclear Physics.

   iii) Electronics/Optics.

   Law: **Desirable:** Two years' teaching experience.

4. PART-TIME LECTURER (DIPLOMA IN MANAGEMENT OF PUBLIC ENTERPRISES (CC)-1 (TEMPORARY) @ Rs. 1500/-P.M. (FIXED)

   Qualifications as laid down by the U.G.C. : M.A. and M.Phil Public Administration shall be the relevant subjects.

5. **RESEARCH ASSOCIATES (for five years)-2**

   (Radiation Physics-1, Theoretical Physics-1)

   Emolument Slabs: i) 2200-2700, ii) 2700-3200, iii) 3200-3700, iv) 3700-4325.

Note: 1) Qualifications will be supplied along with the application forms.

2) Candidates could be considered for placement in any of the above slabs depending upon their experience as laid down by the Syndicate.

Note:

1. These posts carry UGC pay scales. Only specializations/desirable qualifications have been given in this advertisement. Detailed qualifications as prescribed by the UGC/Syndicate will be supplied along with the application form.
2. Candidates must have passed Punjabi in Matriculation Exam. or passed Punjabi Prabodh or Punjabi Praveshika examination. However, if suitable candidates with requisite qualifications in Punjabi are not available, the selected candidates shall have to pass any of these examinations within two years.
3. Incomplete applications and those received after the last date shall not be entertrained.
4. Candidates who have already applied for the post of Readers and Lecturers in Astronomy and Space Science, need not apply again.
5. The eligibility of every candidates will be determined on the basis of qualifications acquired by him up to the last date fixed for receipt of applications.
6. It is not obligatory to call every candidate for interview who possesses the essential qualifications.

APPLICATION FORMS can be obtained from the Head, Publication Bureau, Punjabi University, Patiala-147 002 on payment of Rs.15/- at the Counter OR by sending a Demand Draft for Rs.15/- in favour of the Registrar, along with a self-addressed envelope (25 x 10 cms.) affixed with postage stamps worth Rs.10/- and indicating on it the name of the post applied for.

REGISTRAR

REFERENCE AND RESEARCH TOOLS

BIBLIOGRAPHY OF DOCTORAL DISSERTATIONS

Invaluable reference for those seeking to register for a Doctoral Programme

The bibliography is classified by subjects and covers all the disciplines in which a doctoral degree is awarded by the Indian Universities. Each entry gives complete bibliographical details, viz., name of the research scholars, title of the thesis, university/institute where the research was conducted, years of registration and award of degree, availability note – whether the thesis is available in the university library/department concerned/university office and the name and complete address of the guide/supervisor.

Comprehensive and exhaustive as the bibliography is, it not only reports the research being conducted at the university centres, but also includes research work done at the institutions of national importance, like the IITs, institutions deemed to be universities, like the Indian School of Mines, CSIR Laboratories as also the research establishments connected with ICAR and ICMR.

The bibliography is indeed a measure of the research output of the country.

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BOOKS ALSO AVAILABLE WITH LEADING BOOKSELLERS IN THE COUNTRY

Address Enquiries to:

Deputy Secretary (Publications)
Association of Indian Universities
AIU House, 16 Kotla Marg, New Delhi - 110 002
Telephones: 3310059, 3312429, 3313390, 3312305
Telex: 31-66180 AIU IN **GRAM: ASINDU**

MINISTRY OF HUMAN RESOURCE DEVELOPMENT

(DEPTT. OF EDUCATION)

SCHOLARSHIPS OFFERED BY PEOPLE'S REPUBLIC OF CHINA UNDER BILATERAL CULTURAL EXCHANGE PROGRAMME

Under the Bilateral Cultural Exchange Programme between the Govt. of India and the People's Republic of China, 14 scholarships for study in China are due to fall vacant this year. It is proposed to utilise these scholarships during the Chinese academic year commencing from September 1, 1992. These scholarships will be available in the fields of Chinese language & literature, Music, Dance, Fine Arts, Social Sciences including Political Science, Economic, History, Sociology, Education, Population Studies etc., Acupuncture & Traditional Chinese Medicine and various fields of Science & Technology.

2. The eligibility conditions of the applicants for these scholarships are given below:-

QUALIFICATIONS FOR CHINESE LANGUAGE & LITERATURE:- Two-three years grounding in basic Chinese Language i.e., either a certificate or diploma from reputed/recognised Institute. For these scholarships preference will be given to candidates with an appropriate background for study of Chinese texts on Indian Philosophy, Buddhism & Ethics.

Qualifications for Doctoral and Post-Doctoral Research and Specialisation in Fine Arts, Social Sciences and other fields of Science & Technology :

A Postgraduate degree with 60% and above marks in the related subject along with 2 years' teaching experience and/or research in the related field. Though prior knowledge of the Chinese language is not compulsory, any such knowledge will be treated as an additional qualification.

NOTE: The selected scholars may have to undergo study or the Chinese language prior to undertaking study in the area of their choice.

AMOUNT OF SCHOLARSHIPS ETC.: The cost of air-passage both ways will be borne by the Govt. of India. The expenditure on boarding, lodging and out of pocket expenses and tuition fees will be borne by the Chinese Government. There will be no specific age limit for the award of these scholarships.

DURATION OF COURSE: The scholarship is normally awarded for a period of one year, but in deserving cases it is extendable upto a total of 4 years.

The last date for receipt of application forms duly completed in all respects is Friday, the 28th Feb., 1992. The candidates would apply for the above scholarship on plain paper, furnishing details/particulars in the enclosed format to the **Secretary, Ministry of Human Resource Development, (Deptt. of Education), External Scholarship Division, ES.3 Section, A.1/W.3 Curzon Road Barracks, K.G. Marg, New Delhi-110 001 by 28th Feb, 1992.** Applications received late will not be considered.

PROFORMA FOR APPLICATION

1. Name of the Scholarships Scheme:

Recent Passport size photograph dully signed to be pasted here (name should be given in capital letters) without photo applications will be treated incomplete

2. Subject (Write any of the subjects given in the advertisement)
3. Name of the Candidate (in block letters)
4. Full mailing address
   (a) Present:
   (b) Permanent:
5. Nationality:
6. Father's Name:
7. Date of birth, Age in years and State to which the candidate belongs:
8. Whether a member of SC/ST:
9. Academic record starting from high school/higher secondary

Name of the University Board/ Institution	Examination(s) Passed	Year of passing	Division class with position, if any. Otherwise equivalent Class/ Division may be given along with the grades	% of Subjects marks taken obtained & position if any. Otherwise equivalent %age may be given.

NOTE: Where there is no Division/Class is awarded and only Grading done, the conversion formula adopted may be given.

10. Details of Professional/Practical Training and Research Experience specifying the period and number of papers published, previous employment with name and date of employment, if any.
11. Have you basic knowledge of Chinese language? If so, attach documentary evidence.
12. Nature of the present employment with date of appointment, designation and the name and address of the employers.
13. Have you been abroad? If so, give full particulars of the country and the period. Also mention the year and month of return to India.
14. Proposed programme of study/research/training, specifying:
   i) the work at present engaged:
   ii) nature of programme of study/research desired:
   iii) future plans/prospects after the proposed studies/research; and
   iv) how are these related to the technical or economical development of India?

Place:
Date: (Signature of the candidate)

davp 91/648

UNIVERSITY NEWS, MONDAY, FEBRUARY 10, 1992 Regd. No. R.N. 7180/63 Postal Regd. No. DL – 11106/92

TIET Convocation

HAPAR INSTITUTE OF ENGINEERING & TECH
PATIALA
FIFTH CONVOCATION
DECEMBER 6, 1991
L. M. THAPAR
सत्यमेव जयते

From L to R : Prof. Dr. T.R. Anantharaman, Director, Shri L.M. Thapar, President, Prof. S.K. Khanna, Vice-Chairman, UGC, who delivered the convocation address and Shri I.P. Anand, Chairman, Board of Governors of the Institute

Published by SUTINDER SINGH, on behalf of the Association of Indian Universities, AIU House, 16 Kotla Marg, New Delhi-2.
Grams: ASINDU. Phones: 3310059, 3312305, 3312429, 3313390, 3323097 and 3712435. Telex : 31-66180 AIU IN
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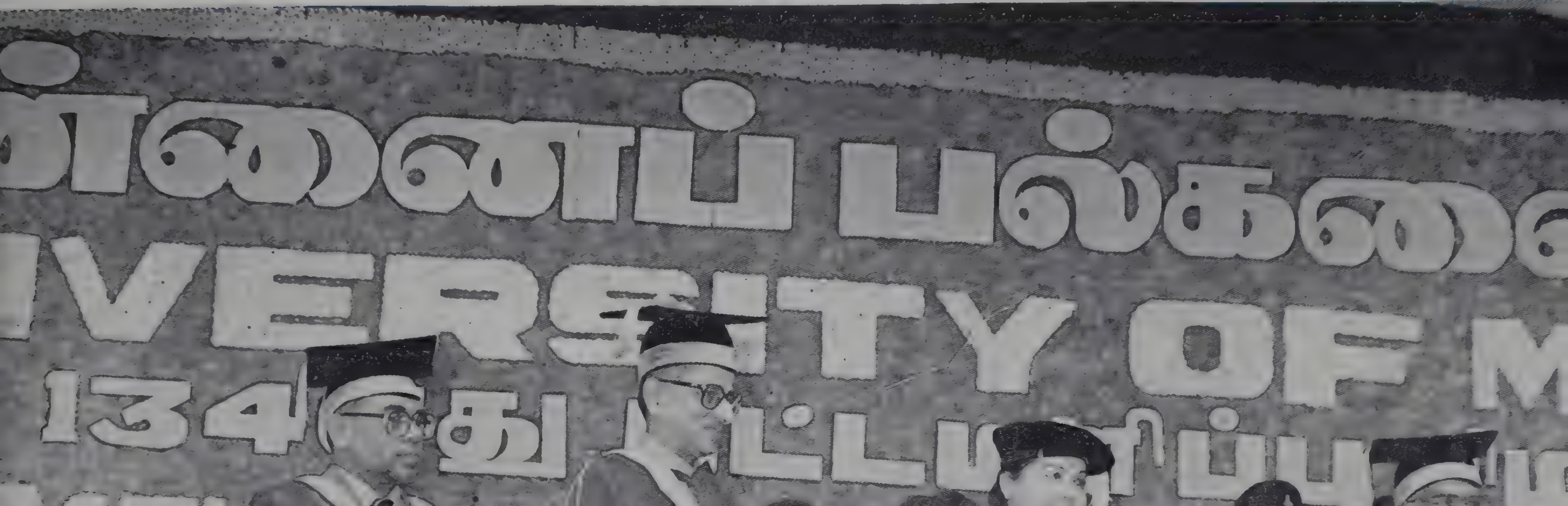
University News

ISSN-0566-2257

MONDAY, FEBRUARY 17, 1992

Rs. 5.00

Madras Varsity Convocation



Hon'ble Shri Bhisma Narain Singh, Governor of Tamil Nadu conferring the D.Litt. Degree(Honoris Causa) on Ms J. Jayalalitha, Chief Minister of Tamil Nadu at the 134th Annual Convocation of the University of Madras. Others seen in the picture from L to R are : Dr. P. Govindarajulu, Registrar, Dr. S. Sathikh, Vice-Chancellor and Shri Rm. Veerappan, State Education Minister.

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Dr. S.K. Bandyopadhyay
REGISTRAR

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Editor :
SUTINDER SINGH

History of the Independent India

1992
C. F. T. R. I., MYSORE

A. Subbian*

The National Advisory Committee constituted by the Ministry of Human Resource Development to update school and college history textbooks has many things to traverse and bring out the opinions of all sorts. After the prolonged interval— i.e. after the "Time capsule episode" of 1970's the Indian historical mind has to undergo different exercise. The great books in the social sciences have been written not by behaviourists, but by men devoted to history with a conviction of its importance and loyalty to the ideal of freedom in historical investigation, whose work is as nearer as social science is likely to come to an objective, value-free report. Such writers owed their success to the fact that, avoiding the false pursuit of "scientific objectivity", that their own values led them to select their objects and to shape their materials. Values can indeed distort observation and mislead selection, but there can be little of either without them. The problem is not how to be rid of values, but is rather how to decide which are best, how best to apply and employ them.

If everyman is his own historian, it is not too hard to argue that every man's history is as good as another's. If a man's personal values lead him to choose his subject, to select his data, and to shape his writing, is not the whole apparatus of historical scholarship — the footnotes, the quotations, the tables and charts, and all the rest a facade?

What is needed at this stage regarding the writing of history since Independence? Vogue has to do with the folk mind, or social psychology? Are there men who do not follow the vogue? Perhaps it is by such that a new vogue arises. The historian, strictly speaking does not control, nor is he responsible for, popular ideas of history. In certain types of writing the winds of popular thought may have controlling effect.

In contrast, the findings and interpretations of the historian, if not strictly "Scientific", must be authentic. A popular writer may state his original views, or he may serve, perhaps unconsciously, as a mouthpiece. Often the broad human mind as it touches, or distorts, history, is not individual, it may belong to a school, a society, a body of opinion, or a wave of sentiment. In the untutored sense it may be only a stereotype. In such a situation the influence of what is called the "profession" — by which, in the proper sense, we mean those who devote themselves to serious historical study — is at its best when its effect appears not in any rigid pattern but in standards of scholarship.

One of those fundamental standards is objectivity. When we speak of this quality we do not mean that, as between alternative conclusions, a decision should never be reached, nor that the scholar's mind should dangle in mid air. It is not the duty of a fair judge to issue no opinion, but to see that there is no tampering with the scales. If one has objectivity he should also have discrimination. The objective principle does not signify that equal weight should be given to unequal things. It means — and this might almost serve as a definition — that the essence of the thing examined comes through in the conclusion reached.

The question arises : can we expect that such objectivity, such avoidance of a nationalist or partisan slant, can ever be achieved in historical writing. The answer is not altogether encouraging but in some cases objectivity has been achieved. This does not imply that objectivity necessarily requires an unfavourable view of one's own country. What is to be stressed, for both sides, is an open mind and an honest, unprejudiced investigation.

(Contd. on page 4)

**Professor and Head of the Department of History, Annamalai University, Annamalainagar, Tamilnadu.*

FUTURE SCENARIOS IN EDUCATION

K. Kuppuswamy Rao*

Introduction

Any nation that guarantees the values of life, progress and justice is said to be sustainable, developing and equitable. And India is no different. Because of the current state of its economy, increasing burden of its population, growing unemployment, poverty and illiteracy, many people wonder how the country has not collapsed under its own staggering weight. This is why talking of any future scenario for India is fraught with hazardous, surprising and, at times, unsavoury projections. It is in this sense that forecasting the future and building of scenario has to be based, not on ordinary statistical extrapolations but on responses to changes needed to solve the problems of the present day. Any future scenario has to be viewed primarily from the angle of interaction between resources and demands. The scenario has to reflect the needs, aspirations and life-styles of heterogeneous groups of people living in rural India and urban India.

Consider as a typical example, the case of primary education. The Constitution of India guarantees through its directive principles of State policy that universal, compulsory and free education would be provided to all children between the ages of 6 years and 14 years. What is not guaranteed is the methodology of achieving this goal. By the turn of this century, as many as 120 million children in this age group would have to be provided this universal, compulsory and free education. If we follow the conventional teaching methods of using a textbook, a teacher and a classroom, we need approximately 6 million teachers and at least 120 million textbooks and about a million classrooms. What is not incorporated into our planning is the allocation of resources at such a massive scale to make this dream come true. Apart from financial resources what is essential is the human resource and an infrastructural apparatus to produce paper, print and distribute books and provide timber to build classrooms. A canvas to map this kind of scenario has not been envisaged. It is not the aim of this paper to go into the debates regarding the inputs required in building different types of scenarios to a single problem. The example of primary education is given to highlight the problems involved in building scenarios for the future.

The Education Scenario

It is argued that education is expected to effect the profound changes taking place in present society and find solutions to the most pressing problems. Education is meant to provide proper guidance to the young and not so young, give equality of opportunity to all aspirants to learning and create a balance between teaching, training and employment. At the same time education is also expected to inculcate attitudes among members of the society; a cultural, moral and ethical thinking contributing to social progress and promotion of democracy within the society. Viewed from this angle the purpose of education is to be multifaced and all pervasive touching every aspect of human existence. It is now an accepted fact that the existing traditional methodologies and thinking cannot achieve even a miniscule part of the laudable objectives envisaged by the political and educational ideologists. Consider a hypothetical situation where a majority of the students who complete their primary education wish to join secondary schools and a majority of students who complete their secondary education wish to pursue higher education. Even if all the resources available in the country are pooled together, there will not be enough to provide opportunities of higher education to meet this kind of demand. Education through non-conventional methodologies alone seems to be answer for this. By whatever name it is called – distance education, open education, private appearance, accreditation of informal education – it is this kind of time-independent, place-independent mediated education which is the answer to the future demands on higher education. It is only natural that this type of education is gathering momentum and is receiving grudging acceptability and credibility from fellow academics in ivory towers. The conventional institutions have also started to jump onto the band wagon of distance education and enlarge their own traditional area of operations. The future scenarios indicate that all types of courses – liberal education courses, awareness courses, science courses, technical courses, medical and engineering courses will be offered by all the conventional universities for one reason or the other – either to supplement the shrinking budget allocations or for fear of being left out of the race for catchment groups of students or to recast their own

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existing faculty resources. Higher education of the future will not be confined to the four walls of a classroom. The future student cannot be expected to study at fixed hours on fulltime basis and for a long period in order to attain mastery over his discipline. There will be in future many short duration courses tailored to the specifications of the employment market. Students taking these short duration courses would be provided an opportunity to pursue higher level courses if they exhibit the necessary ambition and aptitude. There will be ample scope for mobility and opportunities for promotion to employees who equip themselves with newer and more relevant talents through these short-term academic and training programmes. Since advancement in employment is a social paradigm which goes beyond the possibilities of an education system, there will be enormous demand for short-term courses of this type. Students will be able to pay for these courses either out of their own resources or resources of their employers resulting in the reduction of financial burden on the exchequer. I have specifically refrained from using the term "Vocational Courses" because the term is abused more than is necessary and has created a mindset among politicians, educationists and public at large.

The future instructional methodologies to such short duration courses will be learner-centred and job-specific. An employer or a group of employers might require a specific course designed to meet the needs of situations that might require a specific course designed to meet the needs of situations that might require specialised academic and training inputs. Such an academic programme would be a dynamic interactive process where students learn by doing, by experimentation and by negotiating the curriculum — in short, by taking their own responsibility for their learning. In this scenario the government and its agencies may also be employers and might come out with specific needs in their departments.

Distance Education Scenario

Distance education in contrast to conventional education is characterised by the separation in space and time of the majority of teaching and learning activities. Teaching, to a large degree, is mediated through various technologies. Learning, generally, takes place on an individual basis in the home or work place through independent study and through the support of different media. A retrospective look at distance education and its methodologies of instruction reveals that Correspondence Education could be designated as the first generation technological innovation. The then medium was written, cyclostyled material. The feedback mechanism was either completely absent or highly restricted. The second generation technological revolution in distance education occured when the print medium was supplemented by audio-visual support systems. The feedback mechanism has been strengthened by the introduction of face to face counselling, attendance at summer schools and compulsory submission of assignments. The third generation model of the future distance education proposes to introduce new technology which is geared towards interactive communication between students and teachers as well as students and students.

The philosophy of distance education advocates the transformation of the learning process into something very individual. Educational psychologists however argue that from the cultural point of view, learning is a very personal matter and can never be individualised. They quote experiments where the learning process improves when a learner is not segregated from the peer groups. There seems to be a dichotomy here where on the one hand distance education advocates learning and communication as a social process but on the other hand advocates individualised learning as a methodology. The third generation model proposes technology where a learner is provided access to interactive communication facilities. Computer mediated education and online education is the answer to this third generation technology. The technology would provide facilities for computer conferencing resulting in the reduction of social distance if not geographical distance, between learners and learners as well as learners and teachers. A combination of computer mediated education and online education provides a unique domain which, through the aid of computer conferencing, allows more open structured curricula. It reduces production costs of the course material and helps in quicker updating and revision. The computer mediated education and online education is time independent, place independent, many to many, mediated and interactive. This technology would help the specific needs of the individual, making learning not only active but interactive in the fields of continuing education and short duration educational needs of the future.

Coming to the cost benefit analysis, like any other educational project, there are no universally acceptable and absolutely correct methods of estimating the cost. It is true that any new technology initially costs money, time and resources. Beyond the initial purchase price, there are installation costs, maintenance costs, support costs, training costs and software costs. But the cost benefit analysis of distance education is based on the assumption that this system substitutes capital for labour and offers mass production alternatives to the traditional craft approach to achieve real economies of scale. Such a philosophy applies to this new technology as well. But the point of emphasis is that the third generation technology is not recommended to save money or cut costs. We have once missed the industrial revolution resulting in our relegation to a developing country. We cannot now afford to miss this technological revolution of the future.

Conclusion

Education alone cannot lead any society to the promised land. At the most education has been seen as producing spare parts for the economic machine. With the increasing pressure on traditional areas of higher education and changing employment requirements, there is greater emphasis to mould future education patterns to match new technologies and new economic, social and political situations that affect the future society. It is appropriate to quote the final paragraph from the document prepared by the National Association of Teachers in Further and Higher Education; Britain's Future— The Economy and Higher Education (1984):

"The Higher Education system of the future will be much less tied to full time attendance at institutions, taught courses of set durations, entry requirements or formal examinations. It will be a system which is accessible through a variety of media, capable of meeting the needs of individuals or small groups of students more readily and more flexibly, more able to cope with students with differing entry points and different needs in terms of time, mode and duration of study."

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History of the Independent India

(Contd. from page 1)

Do the historians of this committee prepared to study social cleavages, and political cleavages? Why did Mrs. Indira Gandhi execute the Emergency excessively? Are they prepared to study the inappropriateness in language planning or any such issues?

When this has been said, of course, it remains that in post- independent history, with all its pre-dispositions, emotions, and challenging complexities, we have far to go before we are entirely free from special pleading or tendentious writing. In an imperfect world one hesitates to give a counsel of perfection; yet to seek perfection and thus approach closer to it, is the historian's pledge to the ideals of all scholarship.

Government of India has a bureau of standards and we have services of inspection and certification in many fields such as foods and drugs, but the output of historical conclusions is subject to no such control.

There are reviews in learned journals and prizes to reward excellence but these are matters of appraisal among men of competent opinion; they are not matters of sanction and enforcement. There is no supreme court of history. This does not mean that historical judgements have no analogy to a judicial attitude of mind, nor that the field of historical scholarship lies in the free market of findings and generalizations where the only enforcement is that of recognized validity and the only sanction is that of competence plus integrity.

At this stage, according to Dr. Sarvapalli Gopal, the historians appointed in the National Advisory Committee announced by the Government of India in December 1991, were all "first rate scholars". No doubt about this. However they were not representing the broad spectrum of historical mind of the post- independent India.

We cannot fail to be aware of the larger uses and responsibilities of the National Advisory Committee. As a student of human affairs — and as teacher — has to say few more words. As a teacher —historian — every member of this committee, their function is not indoctrination but stimulation of students who will be citizens and even global citizens, in need of history whether or not they are to be historians. It may, therefore, be emphasized that what is appropriate for historianship is also essential for citizenship. Standards of historical study are of value for the understanding of human affairs. Among such standards are clarity, objectivity, tolerance, discrimination, a sense of proportion, insistence upon freedom of thought, authenticity, caution as to conclusions, wariness as to excessive generalizations combined with readiness to state conclusions fairly reached. What is not recommended is the attitude of the politician who says: "These are the conclusions on which I base my facts".

Computerization of Results – The DEI Experience

P.K. Sinha*
A.Kohli*
Sudhir Sahni**

Dayalbagh Educational Institute (DEI) is a Deemed University located in the city of Agra. The Institute comprises the faculties of Arts, Commerce and Management Education, Engineering and Science, besides a diploma level Engineering Institution, and offers undergraduate, postgraduate and Ph.D. level programmes in various disciplines.

Since its inception, the Institute has adopted the Semester System, and the duration of courses varies from 2 to 8 semesters. A cornerstone of the innovative programme introduced by the Institute is the Continuous Evaluation System, in which grasp and knowledge of a subject are evaluated continuously, thereby putting lesser burden on the student as compared to evaluation by one examination at the end of the session. The continuous evaluation is out of 150 marks, which in a typical subject would comprise marks for class tests, quizzes, class and home assignments, seminars, group discussions and attendance. In addition, there is an end-semester external examination of 50 marks. In undergraduate courses, if a candidate fails in upto 3 subjects in a session, he is given an opportunity to clear these subjects through a remedial examination held immediately after the summer vacation.

Tabulation of results before computerization

Results were tabulated manually till the 1988-89 session. Though the number of students was around 2000, because of the continuous evaluation system, the tabulation work per student was about 20 times more as compared to universities which follow an annual examination system. In the initial years, the teaching staff of the faculties used to help in the tabulation of results. Later on, the staff of the examination department was increased to 10, and the entire job of tabulation of results was assigned to it.

The system adopted for manual tabulation of results was as follows : Two independent sets of tabulators posted continuous evaluation marks received from faculty members and developed the continuous evaluation marks out of 150. They then posted the end semester marks out of 50 received from external examiners, and then developed the subject total out of 200. The two sets of tabulated marks were compared, and after rectification of mistakes, tabulation registers containing marks out of $150+50=200$ for all the subjects were prepared, again independently, by two sets of tabulators. The two tabulation registers were compared and after rectification of mistakes, weighted percentage of the current semester as well as cumulative percentage was calculated by two sets of tabulators. Mark-sheets of students were then prepared manually from one of the tabulation registers and checked using the second set before declaration of results.

Due to the strict adherence to the schedule for the conduct of examinations and declaration of results, the entire staff of the examination department had to struggle after every semester, and temporary staff had also to be hired during peak-loads. This had two major drawbacks: temporary clerks suitable for tabulation work were not always available, and secondly, if someone fell ill or went on leave, the remaining staff got heavily overloaded. It was felt that such a state of affairs could not be allowed to continue much longer, and the need for computerization of results was strongly felt.

Feasibility Study for computerizing results

In the year 1987, a Computer Centre was set up in the Institute and equipped with a 80386 based mini-computer with 6 terminals, a 600 1pm printer and UNIX V.3 operating system. It became fully operational in 1988. The Head of the Computer Centre conducted a feasibility study for computerizing the examination system of the Institute, and presented it before the Director, Registrar, and other staff of the Institute. After this was accepted in principle, a detailed systems study was carried out.

The main inputs and outputs identified by the study were:

Inputs

Registration forms filled by students

List of subjects and their credits

**Examination Dept. **Computer Centre,*
Dayalbagh Educational Institute(Deemed University),
Dayalbagh, Agra.

Credit requirements for different degrees

Marks sent by faculty members and external examiners

Outputs

Roll list

Award Blanks

Tabulation Register

Mark-Sheets

List of candidates eligible for remedial examination

Press Release

Merit list

Degree list

Statistics

The study also revealed the following complexities in the system:

- Best 2 out of 3 criteria — out of 3 tests, marks of only the best 2 were counted. This applied to quizzes and assignments also
- Overall percentage for a semester was a weighted percentage-based upon credits of each subject
- Cumulative percentage for an entire course depended upon weighted percentages of all previous semesters
- For B.Ed., separate percentages were calculated for theory and practicals
- Subjects in which a candidate had qualified for remedial examination had to be carried forward to the next semester
- A student was allowed two attempts per class

The functional specifications of the system were drawn up, and given to the examination department for approval. By this time, the examination department staff had got fully involved in the whole exercise, and reviewed the specifications minutely. They began to appreciate that for successful computerization, things had to be spelt out precisely and in detail, and handling of exceptional conditions had to be anticipated and built into the system in advance rather than dealt with as and when they arose. A number of discussions were held to clarify minute details, such as number of decimals in different calculations, rounding-off logic, maximum length of fields, etc. Formats of various reports such as marks-sheets, tabulation register etc. were standardized so as to cater to all the faculties and courses.

Some of the key decisions taken at this time were:

- to verify all data keyed in
- to use plain stationery for all reports to start with
- to introduce the computerization in phases
- to make a quick start, continuous evaluation marks out of 150 will be worked out manually in the first phase
- initially, all data-entry would be done by the Computer Centre, but later on this work would be done by the examination staff
- for the systems test run, the examination department would prepare data covering all aspects of the system
- to modify the registration forms when printed next in order to ensure complete information and to facilitate data entry

Programming and Systems Test Run

Most of the programming was done in COBOL under UNIX operating system. However, to keep an alternative available in case the minicomputer was down, the programs were also compiled under DOS to find out the differences between the two COBOL compilers. These were noted down. The original system consisted of 12 COBOL programs. In addition, some programs and utilities were developed in 'C' and BASIC to facilitate processing. Despite limited manpower, the programs were written and tested within 6 months. Systems test run was then carried out using data prepared by the examination department, and results were handed over to them for approval.

Around this time, the Computer Centre was alerted about the computer virus problem, and developed sufficient in-house expertise to develop preventive as well as corrective software to tackle this menace. As a result, not only were our computers kept virus free, but we were able to study this problem before it became a threat, were able to appreciate and marvel at the sophisticated techniques used by virus writers, and provided help to many computer users of Agra.

Parallel Run of manual and computerized system

Results of the first semester students of B.Sc., M.Sc. and B.Ed. for the 1989-90 session were prepared manually as well as by the computer system. An advanced data entry package with facility of verification was used to ensure accuracy of the data. The results were so satisfactory that it was decided that these candidates will be given computer printed marks-sheets, and manual marks-sheets will not be prepared. It was also decided to process the results of all second semester students for the 1989-90 session on a live basis. This phase also went through smoothly.

Discontinuance of manual system

The staff as well as administration felt confident enough to discontinue the manual system from the session 1990-91, and prepare only computerized results. The registration form had been redesigned and introduced by now. However, there was still a lot of manual work required in computing the continuous evaluation marks out of 150, and it was felt that to get the full benefit of computerization, this too should be computerized. Considering the very large volume of marks to be keyed in, it was decided that the work of data entry will be done by the examination staff. It was felt that a spreadsheet package would be ideal for this work. Although none of the examination staff had any prior experience of working with computers, a few of them decided to take up the challenge and tried their hand at a popular spreadsheet package. It was realized that it was so simple and required so little effort to learn that the entire examination staff could be trained in its use. The entire staff was allotted some free time to study the package, and the Computer Centre scheduled one hour of computer time per person everyday. Some of the staff soon gained enough proficiency to develop macros to calculate the total marks from individual components and to create the ASCII files in the format required by the COBOL programs.

In keeping with the earlier philosophy, the data entry was again done independently by two sets of operators, and the files created by them were compared using a file compare program. The discrepancies pointed out by the program were checked, removed, and only then the files were handed over to the Computer Centre on floppies.

The complete results of the odd as well even semesters of 1990-91 were processed with the above system. To ensure that the entire process of result preparation was error free, results of a few randomly chosen students from each class were manually prepared starting with the raw marks. These were compared with the computerized results, and only when they tallied, the results were declared. We are happy to report that in spite of the postponement in holding of examinations due to agitations in this part of the country, the results were declared on schedule, and that too without employing any temporary staff as was being done in the past.

Conclusion

This small experiment has shown that a lot can be achieved through proper planning, dedication of individuals, clear delineation of responsibility and cooperation between departments. At the same time, we are also trying to guard against the attendant risk of getting complacent and having blind faith in a mechanical process. After all, there is a human process underlying every machine step, and the correctness of results is still very much dependent on individuals – the person keying in data, the person checking a checklist, the computer operator, the programmer etc.

The system and programs are under constant review to make the reports more informative and to reduce the run times. By using binary search for some long tables, time savings of as much as 50% have been obtained in some runs. A lot of source libraries have been developed and are used by all programs to ensure consistency. Documentation is continuously being improved, both for use within the Computer Centre and for communication between the examination department and the Computer Centre. Backups are regularly taken on tapes and floppies when work is in progress.

The examination department is now in the process of acquiring some PCs to improve schedules and to avoid the frequent flow of documents between the department and the Computer Centre. Our next goal is to give sufficient training to the examination staff in computer operations so that they can handle the system themselves.

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Information Problems of Educationists in India

Nirmal Malhotra*

Non-availability discourages the use of information and information loss, sometimes, becomes a big loss to the nation.

Those who are responsible for making policies and plans in education need to have variety of information for well-informed judgement. Information need in education in India has so far received hardly any systematic attention. Educational activities of the formal and non-formal type have reached new dimensions in terms of size and amplitude in most countries of the world. The management and controlling organisation and mechanism, set up to regulate and coordinate these educational activities, have correspondingly attained vast proportions and complexity. With it comes the problem of effective management of the acquisition and supply of information for decision making.

Information systems are built for two general reasons :

(i) to help decision-making, and

(ii) to help research.

The benefit of information can be cited as :

- Improving capability of a country to take advantage of existing knowledge and 'know-how' achieved elsewhere.
- Rationalisation and systematisation of country's research and development efforts in the light of knowledge already available.
- Wider knowledge base for the solution of problems.
- New alternatives and approaches to the solution of educational problems and options for minimizing future ones.
- Above all, better decision-making in all sectors and at all levels of responsibility.

In our country most of the educational planning and management efforts are still short of their expected impact. We are not in a position to find new alternatives and approaches to the solution of educational problems and options for minimizing future ones. One of the crucial factors causing such inadequacies and inefficiencies is the supply and flow of relevant information for decision-making.

The multitude of agencies involved in the collection and dissemination of information has also created unnecessary duplication of efforts, conflicts in data quality and reliability and above all, considerable inconvenience for the user.

Information System

When we critically examine the information system in education in India, we find various problems and deficiencies :

Lack of coordination

There is a multiplicity of agencies both at the state and national level. The information collected by these agencies not only overlaps but also creates problems for the users. Taking the example of higher education, the data is collected by both the Ministry of Human Resource Development, Department of Education and the University Grants Commission. It is difficult to see the advantage of these bodies duplicating each other's work. U.G.C. should take over this responsibility and the Ministry of HRD could make use of the information supplied by U.G.C.

Even within the Department of Education the data on technical education is collected by its Technical Division and also by its Statistics and Information Division. But both sets of information do not tally because of the difference in the date of reference and also in concepts and definitions.

The most interesting case is that of information on school education which is collected annually by the Department of Education and once in five years by NCERT surveys. The same information is also directly collected on an annual basis by the Planning Commission from state governments for the formulation and finalisation of development plans. The statistics collected by these agencies show considerable variation without any valid reasons. For example in 1986 data of enrolment in class I-V provided by these agencies, is shown in the following table:

**Librarian, National Institute of Educational Planning and Administration, New Delhi.*

**Classwise Enrolment (Total and Girls)
in class I-V on 30th Sept., 1986**

	Reporting Agency	*Girls*	*Total*	*State and UTs*
a.	M/H.R.D. Selected Educational Statistics	12,37,187	27,90,002	Assam
b.	N.C.E.R.T. Fifth Survey	11,43,663	26,27,634	
a.	M/H.R.D.	1,06,470	2,39,150	
b.	N.C.E.R.T.	82,949	1,79,834	Manipur
a.	M/H.R.D.	46,222	97,084	
b.	N.C.E.R.T.	49,570	1,04,044	Mizoram
a.	M/H.R.D.	40,65,465	12,33,663	U.P.
b.	N.C.E.R.T.	37,71,623	1,10,25,696	

Time Lag

The main problem in the field of educational information is the big time lag between the collection and publication. The time lag for different publications ranges between five to six years. For example, Fifth Survey was conducted by NCERT in 1986 and selected statistics are made available in 1989. It is the same with Department of Education and UGC.

Lack of Quality of Information

In most cases, the needs of the users are not kept in mind. The basic problem is that the reporters submit data for the sake of submission, middle level administrators forward the data to higher authorities for the sake of forwarding. Central and national level units compile this data for the sake of compilation to maintain the time series. It is not only that the data collected by the various agencies are not comparable in spite of their common source, but within one agency the data over a period of time and in some cases, even for particular year are not consistent. The basic element of use is missing everywhere. For quality and use we need an in-built information system having complete integration with other sub-systems, to meet the information need of educationists.

Users and their Information Problems

The important groups of users of education information are planners, administrators, researchers, academicians, and students. Though their information need and information asking behaviour are different yet their information problems with the present information management system for education are the same. No user study has been conducted in this field in India. The problems mentioned are based on my experience and close contact with users as a librarian of National Institute of Educational Planning and Administration, New Delhi.

The question posed to educational planners regarding the use of information and research for guiding the policy makers in the allocation of the country's scarce resources to education have often resulted in the replies like : "The statistics and research produced are hardly policy relevant and anyway, policy making in education is influenced by more than the knowledge which statisticians and researchers could produce". The problem with this group is that their information need is less predictable. Commonly, they don't know what information they need until a particular set of circumstances arises and then they want very specific information.

Academicians and researchers however know what they want; they have quest for research. They are not satisfied with specific and short information. They are not satisified with the quality of information provided.

In spite of different needs and information seeking behaviour, users have some common problems with the present system of information such as :

1. *Location of Information*

Sometimes it becomes difficult to know where to find documents and information. Location problem is more acute with government documents and unpublished material. A user searches for information in the library; if it is not available there, the poor librarian tries to locate it in other libraries, requests for a copy to the concerned information unit. Staff in these units treat this request like other file work. After taking their own time they may send a copy or may not even reply. Thus, the librarian becomes helpless in meeting the needs of the user.

2. *Information at the Right Time*

The big time lag between collection and publication of data defeats the basic purpose of information. If planners plan our education programmes for 1990-91 on the basis of data available for the year 1983-84, it is something like planning in the dark.

The problem is not only with publication, the distribution of publication and retrieval of information system is also very disorganised. Authorities think their job is over with publication. This abnormal delay reduces the use of information and creates a lot of problems for the user.

3. *Quality of Information*

If a researcher finds that the data collected by two agencies on the same topic, for a particular year is not comparable, he gets confused. When we hand over those documents to the user, he faces a lot of problems in their analysis. In most cases, the research is conducted for the sake of research and the information need and its user is not kept in mind. Decision makers accuse researchers of supplying them information which not only is not relevant but makes matters worse.

4. *Too Much and Too Little Information*

One of the crucial factors causing problems and inefficiency is the supply and flow of irrelevant and imbalanced information for users. We may supply the large quantities of information produced, but little of that is relevant, accurate and timely. Too much information makes them uneasy and they demand specific information.

5. *Grey Material*

In a country like India, in the absence of National Information Centre and information networking, it becomes impossible to locate unpublished material generated by educational institutions. Evaluation studies conducted by institutions and researches conducted for the institutions remain unknown to the decision makers and researchers, as these are generally mimeographed and not circulated widely.

All these information problems are due to the lack of coordination among the information collecting and disseminating agencies. It is not enough to collect, tabulate and publish information. It is needed that all the information on education has to be available when required at one place and all persons concerned have to be motivated to take this information. This is possible only if we develop information network in education at sub-national and national level and also establish a National Information Centre at national level. The National Information Centre should come under Copyright Act, so that information generated in different regions on education in the country can be deposited in the National Information Centre for processing, retrieval and preservation.

Earlier, the information service meant that the user be offered reading material when he or she visited the library and requested for it. Now it means that the reading material must reach the places where information is required.

THE NIZAM'S INSTITUTE
OF MEDICAL SCIENCES

(A University established under the State Act.)
PANJAGUTTA : : HYDERABAD - 500 482, A.P.

EMPLOYMENT NOTIFICATION

Applications are invited for the following posts:

i) Professor of Hospital Administration & Medical Superintendent (Rs.5900-200-7300) with M.D. (Hospital Administration) and 14 years' teaching experience after postgraduation.

ii) Lecturer in Nursing (Rs.2200-4000) with M.Sc. (Nursing) with five years' experience after M.Sc (including two years' teaching experience in Nursing)

Prescribed application forms and details can be had by sending a Demand Draft for Rs.50 obtained in favour of Director, NIMS, along with a self-addressed stamped envelope of Rs.9.00 or by paying cash in person.

The Institute reserves the right either to fill up or not to fill up any of the posts advertised. Last date for receipt of applications is **29.2.92.**

Dr. D.Raja Reddy
DIRECTOR

Crisis of Confidence

Miss J. Jayalalitha, Chief Minister of Tamil Nadu delivered the Convocation Address at the 134th Annual Convocation of the University of Madras. She said, "Never before in the past has this country faced a crisis in the field of education of the magnitude that we see today. It is a crisis of confidence in education. Our faith in the ability of education, to stand up to the social and economic requirements of the population, is getting slowly eroded, at least in the minds of the new generation, which is expected to derive all the benefits from the very system of education that we are providing. Adoption of wrong policies, or wrong approaches, or provision of inadequate infrastructure, or laying down wrong norms, or setting ourselves unrealistic goals can accentuate this crisis". Excerpts

A University is not a mere store house of knowledge, nor is it just a training ground for the acquisition of mere skills. Education, *per se*, is liberating and more so is higher education. Higher education is intended to liberate your mind and heart, to help develop a vision, to enhance one's own quality of life and to help others – less privileged – in society to come up in life. In essence, higher education must help the students to develop a concern for the welfare of other people. The Great Saint Thiruvalluvar rightly asks:

> "What becomes of knowledge, or of what use is knowledge, if it does not make one feel the sufferings of others as his own?"

Through the ages our country has recognised the power of learning and had given it the primacy of place in the scheme of social and cultural values. Education was meant primarily for self-improvement. Acquisition of knowledge had self-enlightenment as its goal. The process of learning was continuous throughout one's life, and was a means to enhance the qualities of the individual, so as to enable him to play a useful role in society by adopting proper social values, the underlying basis of which was a profound sense of spirituality. In a true sense, education in the ancient Indian society was meant for the purpose of integrating the individual with society. Education was intended to promote the proper understanding of inter-personal relationships, proper moral conduct and proper social values. The Intellectual, the Scholar, the Teacher, the Guru and the Student all played their respective parts in establishing and preserving values in society, so that peace, harmony and good relationship among the people could be promoted. The goal of education in our ancient society, was truly spiritual.

Arnold Toynbee, the great historian, emphasises this goal of education as being relevant even in the present day. It is worth recalling his words. He says: "I hold that the goal of education ought to be religious, not mercenary. Education ought to be a search for an understanding of the meaning and the purpose of life, and for discovering the right way to live. The right spiritual way is, I believe, fundamentally identical for all human beings. The right practical way too, was the same for all mankind, in the age before the division of labour was made necessary, by the change to complexity from the original simplicity of mankind's social organisation and technology".

The beginning of the industrial revolution heralded the age of the scientific temper, and this in turn laid the foundation for a technological civilisation, particularly in the West. All these produced momentous changes in man's attitude towards education. Education became the means of living. Acquisition of knowledge was considered to be a source of livelihood. Possession of educational and technical qualifications was only a method by which any person could improve his standard of life, conditions of living. Technology meant division of labour, and this in turn demanded possession of specialised skills. Science and specialisation went hand in hand. It was no longer a question of how wide a person's understanding was, how deep his knowledge, or how sincere his intentions to acquire learning. The paramount necessity was to acquire skills of a specialised nature, which would help a person to fit into the industrial milieu of modern society. The test of success in the pursuit of material welfare, was the degree of specialisation which each person acquired and mastered.

After our country achieved independence in 1947 and adopted the way of the Western world in the development of science and material culture, our educational system and learning institutions began to adapt themselves to the requirement of the changing culture, and this naturally put the country firmly on the path of specialised higher learning.

However, today, the field of education in our country, bristles with enormous complexities. There is a compelling need to provide universal primary education to all the children of our country, as quickly as possible. The vast masses of our population who have not had the benefit of formal education in schools, have to be given the rudiments of knowledge so that they can be brought into the mainstream of life. Our educational system has to deal with a frighteningly enormous number of young people, who have to be given socially and economically productive occupations, consistent with the growth of technology. The compulsions of industrial progress, the impact of the global economy, and the adoption of high levels of technology, call for an increasing number of vocationally trained and highly skilled young persons, with or without University degrees, who can fit into and fill up various employment positions. Underlying all these is the strong and urgent need to upgrade the professional knowledge and expertise of the teachers, so that they are not lost in the race for advanced knowledge. On top of all these is the vast population, growing at an alarming rate, which is clamouring for all these facilities to be made available to it within the shortest possible time. Never before in the past has this country faced a crisis in the field of education of the magnitude that we see today. It is a crisis of confidence in education. Our faith in the ability of education, to stand up to the social and economic requirements of the population, is getting slowly eroded, at least in the minds of the new generation, which is expected to derive all the benefits from the very system of education that we are providing. Adoption of wrong policies, or wrong approaches, or provision of inadequate infrastructure, or laying down wrong norms, or setting ourselves unrealistic goals can accentuate this crisis.

The important aspects of this crisis could be listed as follows:

1. Eradication of mass illiteracy;
2. Universalisation of primary education;
3. Structuring the educational curriculum for socio-political awakening;
4. Promotion of a feeling of oneness, a sense of national integration, and abolition of the differences brought about by communalism, casteism and other evil forces;
5. Emphasis on science and technology;
6. Expansion of educational opportunities;
7. Development of the right attitudes and values, bringing about a humane and compassionate approach towards various problems;
8. Provision of the right quality of social education;
9. Expansion of job-oriented education, based on the acceptance and promotion of science and technology, right from the schools.

These characteristics may seem to be dignifying and may appear to defy solution. But there is no need to feel pessimistic or gloomy. In our Constitution, in our Planning for Education we have a correct appreciation of the role of education, and we have made great strides forward. But, what is of concern, is the inadequacy of our effort and input when compared to the magnitude of the problem that we have on hand.

The Kothari Commission said: "The destiny of India is now being shaped in our classrooms". We are the masters of our destiny and the architects of our own values. We should therefore pool our collective intellectual, physical and material resources, to give proper and sound education the highest priority, and to formulate policies of education, which will take note of the complexities of our nation, and provide for the welfare of our people.

In the age of technological civilisation, education in the conventional method, needs to be supplemented by vocational training for special branches of knowledge and skill. School education alone is not sufficient, for the full development of potential and qualification of individual abilities. Each person has different talents. Each one has his or her own merits and qualities, and the key to meaningful use of talents lies in tapping the potential, awakening these traits, and applying them in daily life and practical situations. Performance in school or college ought not to be the sole criterion by which a person's abilities are to be judged. Not all bright students turn out to be productive and useful citizens in later life, and many persons who were not considered outstanding students, and who were not conspicuous by their talents in class, became eminent, highly respected and outstanding members of society in their later lives. Therefore, the Degrees, or the qualifications that students obtain on leaving school or college, must be regarded to as a lifelong assessment, but as merely a professional judgment.

Hence, there is a need for continual education, not merely of the teacher but also of the student as well. Continual education has become a matter of necessity, all the more because our knowledge, is increasing, and scientific advancement is taking place all the time. Human abilities are diverse, and these diverse abilities are socially always valuable. Each individual's unique abilities must be discovered and fostered. This can be done by giving students opportunities for using practical experience, and the kind of education in which theory and practice are combined, so as to supplement, complement, and stimulate each other.

While we must launch our search for excellence, we must also obtain a certain basic level of satisfaction in providing minimum facilities to everyone. Jean-Paul Sartre raised the question, which has now become famous; "What can literature do for the starved?" We may as well raise another question: "What can education do for the starved?" Posed in this dramatic manner, the question looks incapable of solution. We have first to feed the stomach, before the brain can be put to use; but both the tasks are equally important. I recognise that the educational policies so far implemented in our country, have to some extent helped to solve this problem of the vicious circle. I do admit that enormous strides have been made in shaping and tailoring education, to meet the specific needs of our people. We have introduced a massive programme of universal primary education, adult education, vocational education, specialised education at higher levels and the rest, so as to meet the social and economic needs or our people. We have also tried our best to provide appropriate infrastructure such as buildings, laboratories, research institutions, training institutions, and the like. For example, our own State has made great strides in the field of education. We have achieved a good degree of success in literacy profile. The 1991 census reveals that 63.72% of the population above 7 years of age in Tamil Nadu are literate. Among the large number of States of our country, Tamil Nadu stands next only to Kerala. Our primary education programme has achieved major successes, thanks to the Puratchi Thalaivar M.G.R. Nutritious Noon Meal Programme. We have also achieved great progress in University education. Our young people have performed outstandingly in diverse field of scientific and technological education. Your own University's contribution in this regard has been significant.

We are proud of these achievements. At the same time, we cannot help entertaining a feeling, that our educational system is contributing to the alienation of man from society. With excessive specialisation, emphasis upon short-term and temporary goals, our educational system may make students forget or ignore the essential values of living. A poor society such as ours, that takes all the trouble and pays for the education of the student, is morally right if it expects something out of the student, and out of the educational system, for the promotion of general welfare. Arnold Toynbee put it rightly when he said: "Every entrant into any profession, ought to pledge himself to use his special knowledge and skill, for serving his fellow human beings and not for exploiting them. He should give his obligation of service a priority over his incidental need to make a living for himself and for his family. Maximum service, not maximum profit, is the objective to which he should dedicate himself". Arnold Toynbee rightly stresses the need to keep away from the crushing influences of individualism, which can be the bane of excessive specialisation in the field of education. The need to give rather than to take, is a very important factor in a society such as ours, where millions of people have to be provided for, in all ways. The entire community must benefit from the kind of education that we impart to the students. Education must be for the benefit of society and not vice-versa. This means that our educational system must be capable of inculcating these basic values in the mind of the student. Petty considerations, narrow-mindedness, inculcation of communal or caste feelings, or other forms of hatred through education, must be eschewed altogether. This requirement is a matter of vital concern to all of us, especially in the current context, when fissiparous tendencies are acquiring false prestige. The first Prime Minister of India, Pandit Jawaharlal Nehru said: "In India, the first essential is the maintenance of unity of the country, not merely the political unity, but the unity of mind and heart, which discards the urges to separate and disunite, and which breaks down the barriers which are raised in the name of religion, or in between State and State, or in any other form. It is of the first importance that we should not lose ourselves in passion and violence. National integration and coherence is a matter of vital importance today". These prophetic words remain true to this day.

On this memorable occasion when you wear the Academic garb symbolising your graduation, I request you to keep in mind, that education is a continuing or unceasing phenomenon, and that education means self-improvement. There is need for competitiveness, but that should be of a constructive kind. There is need for individual progress, but that should be in the best and larger interest of society. There is need to yoke Science and Technology to economic progress, but that should be not at the expense of anybody, but with due consideration of the need for social justice. Sound education should help a person develop a personal identity, a social identity and also a national identity. That is the only way by which we can seek to achieve greatness for our country. Progress consists in setting clear goals for ourselves. But as Mahatma Gandhi always taught us, the means are equally important. A little understanding of this will make us better human beings, and more useful members of society.

Retrospect & Prospect

University of Madras

Excerpts from the Report by Prof. S. Sathikh, Vice-Chancellor

University Departments of Study and Research

There are at present 68 departments of study and research spread over four campuses, viz., Chepauk, Marina, Guindy and Taramani, apart from three departments in the P.G. Extension Centre at Salem, one Department in the P.G. Extension Centre at Vellore (now functioning at Madras) and an Institute of Correspondence Education with eight departments. This apart there are 120 affiliated colleges and approved institutions.

There are five endowment Departments for Christianity, Islamic Studies, Jainolgoy, Saiva Siddhanta and Vaishnavism. At the time of post-Centenary Silver Jubilee Convocation in 1983, the then Chief Minister, Dr. MGR, announced the establishment of the Anna Centre for Public Affairs in the University with Rs. 21 lakhs endowment from the party. Now the University envisages to convert this Centre into a full fledged University Department and to expand and intensify its activities at a cost of Rs. one crore i.e. with Rs. 50 lakhs for building and infrastructure and another Rs.50 lakhs of endowment for recurring expenditure.

It is to the credit of our University that three Centres of Advanced Study viz., Philosophy, Botany, Mathematics which were established by the UGC have completed more than 25 years of useful role not only as centres of academic excellence but also winning international recognition.

The Departments of Humanities and Social Sciences emphasise on the current problems and developments of their fields both in the nation and abroad. There are opportunities to study over 7 Indian and over 5 foreign languages.

The Centre for Advanced Study in Mathematics, named after the great mathematician Ramanujun, researches in the areas of Algebra, Numerical Analysis, Geometry, Computer Science and Probability Theories. The use of statistics for various researches in all other disciplines, application of computers for research purposes and day-to-day needs, formulation of physical theories for industrial application, study of nuclear physics, super conductivity of metals, nature of crystals, structure of DNA and RNA, origin of life, industrially based chemical studies, study of herbal compounds, photo-chemistry, study of catalysts usable for petro-chemicals industries, polymer studies, studies on different energies, the nature of earth, enhancement of the rate of reproduction of fauna in view of increasing wealth of nutritious sea foods — these are some of the thrust areas of the Science Departments. The Centre for Advanced Study in Botany focuses its attention on plant diseases, use of the plants in the eradication of pollution from industrial wastes, use of oceanic flora in food and cloth industries and development of edible mushroom.

The eight departments in Taramani Campus concentrate on basic medical sciences. Genetical, bio-technological, endocrinological, bio-chemical, pathological, pharmacological and physiological researches are being conducted here. The study of genetically transmitted diseases, repercussions of marriage between genetically related person, diabetese, symptoms for different diseases, the reaction of inhaling polluted air, application of local herbs for the cure of jaundice, suitable remedies for various diseases and feasibility of transplanting tissues and cells from the brain of the child in the womb to the affected adult brain, are some of the areas concentrated by these departments of Basic Medical Sciences.

Affiliated Colleges and Approved Institutions

The University of Madras has 113 Affiliated Colleges and 7 approved Colleges.

In the year 1990-91, in the affiliated colleges to the University of Madras, there has been a total enrolment of 1,15,870 of whom 70,860 are men and 45,010 are women, which is 61% and 39% respectively.

Enrolment in University Departments

The enrolment of student for Master's Courses in the University Departments alone is nearly 800 with more than 50% women students.

In M.Phil Programme of the University Departments, there are 372 students (334 full-time and 38 part-time) with 54% women students.

In Ph.D. Programme of the University Departments and Colleges the enrolment during the last two years is 860 of whom 553 aremmen and 307 are women. There are about 2000 candidates who have registered earlier and continuing their researches till date.

Institute of Correspondence Education

The Institute established in 1981 is now offering 21 undergraduate courses, (11 under Regular Stream and 9 under Open University System), 10 postgraduate courses and 7 Certificate/Diploma Courses. There has been a steady increase in the enrolment of students year after year. There were about 64,000 men and 47,000 women candidates on the roll during the year 1990-91.

Curriculum Development

To develop new inter-disciplinary and socially relevant courses and to formulate suitable syllabi, a Centre for Curriculum Development is functioning. An academic link-programme (ALIS LINK) between this University and the University of Manchester, U.K., has been established with a view to enriching the curriculum development activities and exchanging appropriate technologies for renovation and innovation of curriculum, especially for distant education.

Recently the curriculum of the undergraduate courses are being revised by updating the content of the syllabi. The salient features of this revision are compulsory enrolment of the first degree students for one year in any one of NCC/NSS/Sports, Mass Literacy Programme, forming part of these schemes and introduction of general knowledge/studies as optional subject to enable interested students prepare for civil service competitive examinations.

Academic Staff College

One Orientation Course and Eight Refresher Courses (3 for Botany, 1 for Defence Studies, 1 for Tamil) were conducted and 280 teachers have been trained during the year. The emphasis of these programmes were on social awareness, teaching methodology, educational psychology, subject upgradation and personality development. The UGC grant is on the basis of actual expenditure on certain norms and it runs to Rs.50 lakhs per year.

Endowments

There are about seventy two endowments under the auspices of which lectures and seminars are organised by the University Departments. During the year, seven new endowments were added, thirty four lectures and five seminars were conducted.

Medals

Philanthropists and educationists have instituted as many as 100 medals to encourage students' performance in their studies.

Publications

The faculty members have presented 625 research papers in regional/national/international Conferences/Seminars/Symposia and published over 250 papers in national and international journals. The Publications Division of the University has published 10 books and five journals, being the contributions of the faculty. As a sequel to Centenary Celebrations of the University of Madras, books on Jawaharlal Nehru, Bharathidasan and Dr.B.R. Ambedkar were also published.

Library

The University Library system spread over all the campuses of the University continues to be one of the largest in the country with above five-lakh volumes. 248 theses accepted by the University for the award of research degrees have been added to the Library during the year, bringing the total number to 10,178. Periodicals numbering 1,145 were received during the year. About 4,694 volumes were added of which 420 were by donations. The UGC allocated a sum of Rs.16 lakhs for the modernisation of Madras University Library during VII Plan period and Rs.35 lakhs for additional building.

Department of Computer Science

Under the programme of modernization of the Library, the Department of Computer Science has been helping the Library to set up an on-line information search and world wide computer communication facility. A leased line circuit has been established between the Chepauk campus of the University and the Cateway packet switched service of Videsh Sanchar Nigam Ltd. Similarly another hotline has been established between the Chepauk and Guindy campuses of the University. Through this facility on line access is available to a number of international information source of value to several disciplines of the University. The facility is ready for commissioning. The Department of Computer Science has put up an exhibit at the recent Ind-Expo '91, an exposition entitled, "Information Technology" where this facility was demonstrated. The University has also been expecting to be included in the "INFLIBNET" Programme of the UGC.

University Students' Advisory Bureau

University Students' Advisory Bureau (USAB) of University of Madras, established during 1909, has been successfully serving students of the University for the last 80 years. About 50 students visit the USAB daily seeking information on courses offered by different Universities in India and abroad.

During the period January-October 1991 the USAB organised six coaching programmes for various National level competitive examinations as well as a short term "Spoken English" course.

Likewise, in collaboration with the Indian Council for Cultural Relations, Government of India, many activities are undertaken for the welfare of the Foreign Students studying under the Madras University.

The Inter-University South West Zone Tournament in Basketball (Women) in Oct '90, Kho-kho Tournament (Men and Women) in Nov '90 and the All India Inter-University Tournaments in Basketball (Women) in Feb '91 were aesthetic to watch.

Apart from the team events, individual players of our University have also been selected to represent the Indian Universities team.

Besides, Summer Residential Coaching Camp was organised between 22.5.91 and 12.6.91 in the following disciplines:

Athletics (Men & Women), Basketball (Men & Women), Volleyball (Men & Women), Kho-Kho (Women), Kabaddi (Men), Football (Men), and Hockey (Men). About 82 Men and 36 Women students from various Colleges attended this camp.

Foreign Help

In recognition of the research activities of the Department of Genetics, University of Madras, the Federal Ministry for Research and Technology, Federal Republic of Germany, has donated a Scientific Equipment (TR-125 Vibrating Bacterial Incubator) to that Department which will aid several researches.

The University of Madras and Waterloo University, Canada, have a linkage under the Canadidian International Development Agency (CIDA) which has granted Rs. 1.00 crore for studies of computer applications in geography, and environmental geography.

RECENT RELEASES

V. BIO TECHNOLOGY

–TREHAN, KESHAV

Biotechnology, besides being a traditional discipline is developing fast because of realization of its importance in industry, agriculture, pharmaceutical concerns, public health and geological explorations for various purposes. Consequently, nations are striving hard to merge the biotechnological operation into national development, building hardcore economics and in seeking strategies for international cooperation and ties.

The present text has been designed to outline the basic and fundamental aspects of biotechnology to be understood in its right perspective.

Pages 286 Price: Rs. 300

TROPICAL ECOSYSTEMS : ECOLOGY AND MANAGEMENT

–SINGH, K. P.

This book is an answer to the various environmental problems that await diagnosis and appropriate remedial measures valuable information is provided on a variety of species, habitats and ecosystems of the tropical region. It contains a set of papers by experts with vast experience of conservation and management of tropical ecosystems. Data from developing countries have been cited extensively. The book will help to predict ecological changes and develop conservation and environmental management strategies.

Pages : 450 Price : Rs. 400 approx.

WILEY EASTERN LIMITED
4835/24, Ansari Road,
Daryaganj, New Delhi -110 002

Literacy and Environment Education Camps

The NSS Cell of the Gujarat Vidyapith, in consultation with the State Resource Centre, District Development offices, Collectorates and Adult Education Departments of Ahmedabad and Gandhinagar identified 4 villages of Ahmedabad district – Kavitha, Ambliara, Nandol and Chandrala – and 2 villages of Gandhinagar district – Dola Rana Vasana and Zundal – for holding 15-day 6 camps from November 20th to 4th December, 1991. 750 students and practically all teachers of the Gujarat Vidyapith and 100 local youths participated in these 6 camps on literacy and environment. Prof. Ramlal Parikh, the Vice-Chancellor and Shri Vinodbhai Tripathi, Registrar, visited these camps. Shri S.P.Uttamchandani, coordinator, Hon'ble Ministers Shri Babubhai J.Patel (Narmada Vikas), Shri Narhari Amin ((Youth & Sports), Shri Chhabildas Mehta (Finance), Shri Babubhai Vasanwala (Health), Shri Shankerji Thakore (Revenue & Agriculture) graced the inaugural and concluding sessions by their presence. Besides, Shri A.K. Joti, Higher Education Commissioner, Liaision Officer (NSS Cell), Government of Gujarat, NSS Regional Centre Youth Officer, Gandhinagar District Collector and District Development Officer visited the camps.

Organising house to house survey and conducting door to door literacy classes educating people on use of low cost water seal latrines, biogas plant, solar cooker, soak pits, compost pits, cleaning public places and drains, organising health check-up and cattle care, blood donation camps, information exhibitions, plantation, levelling roads, constructing soak pits, and cultural activities were intensively carried out during these camps. The local agencies like village panchayats, schools, cooperatives, women & youth groups actively supported and participated in planning and implementation of the camp activities. Distribution of literacy kits among 3,256 illiterates was done by the students. 175 soak pits, complete cleaning of drains, road repairing and levelling of grounds worth Rs.60,000 was also done by the students. A new wave of enthusiasm was created in 6 villages to work for total eradication of illiteracy from these six villages.

Concepts in Chemistry

A two-day national seminar on "Concepts in Chemistry: A Pedagogical Approach" was held at the Chemistry Department of the Udai Pratap Autonomous College, Varanasi. Sponsored by the UGC and the Purvanchal University, Jaunpur, the seminar was inaugurated by Dr. N.K.S. Gaur, Minister for Higher Education, Labour and Employment, U.P.

Speaking on the occasion Dr. Gaur called upon the students to take more interest in academic pursuits. He emphasized the need for proper coordination among the students, teachers and the govt, for substantial improvement in education. He stressed in all seriousness the need to observe the number of minimum working days to complete the scheduled courses. He appreciated the efforts made by the college in getting an autonomous status and assured all help to the college for its further development.

Dr. S.N.Singh, Convener of the seminar, in his brief opening remarks outlined the purpose of the seminar as an opportunity for conceptual discussions in the different areas of Chemistry education by inviting distinguished speakers. He hoped that professional interaction will enhance and further strengthen the academic temper of the department. He sought the guidance of the academicians present in framing the new syllabus of Chemistry to be adopted from this session in the new setup.

Prof. R.P.Rastogi, former Vice-Chancellor, BHU, in his presidential address called upon the students and teachers to develop analytical power and move in life with honesty, sincerity and dedication. He suggested that curriculum should be clearly defined, and advocated the inclusion of latest discoveries and new ideas in the syllabus at postgraduate level. He stressed the importance of use of computers in Chemistry at M.Sc. level. He urged the teachers to involve themselves in some research activities. About the mode of question papers, he preferred objective and short answer type questions and asked the department to prepare a question bank.

The seminar was divided into three academic sessions. Prof. N.S.Rawat, Department of Applied Chemistry, Indian School of Mines, Dhanbad, discussed the origin of trace elements and their role on plant and animal kingdom, their occurrence in natural water and the stability of trace metal compounds.

Dr. Kehar Singh from Gorakhpur University discussed semiconducted based photo electrochemical systems. Dr. A.K.Mukherjee from BHU gave a very clear conceptional approach of organic synthesis. Prof.R.C.Srivastava from BHU brought home the concept of antropy and the associated thermodynamics. Prof.V.D.Gupta (BHU) made a useful distinction between a covalent and dative bond. Prof.R.D.Shukla (N.C.E.R.T., New Delhi) gave a comprehensive account of curriculum development of chemistry pedological concern. In the concluding session Prof. D.K. Rai, Dean, Science Faculty, BHU gave a very broad and systematic survey of the whole scene starting with atoms and molecules upto the discovery of CGO molecules.

Summing up the deliberations of the seminar, Prof. Rastogi remarked that whole exercise had been extremely informative and useful. He complimented the organising committee for holding the seminar and appreciated the competence of the learned speakers.

Over thirty teachers and forty M.Sc. students participated in the seminar.

Log Tables Surpassed

Mr Jhulan Chakraborty, a mathematics graduate from Burdwan University and currently a teacher at the R.K. Mission Vidyapith, Deoghar, has devised a new process to arrive at results of complicated multiplications and divisions without the aid of logarithmic tables.

A researcher of the number theory – the special branch of mathematics dealing with the functions of digits in complicated equations – Mr Chakraborty has perfected his method over the years to arrive at values to any decimal place, an achievement which cannot be equalled by the age-old logarithmic tables.

He has also devised methods to deduce exact values (up to any decimal place) of any fractional number raised to any fractional exponential power. His calculations hold the promise of revolutionising the computational capabilities of even pocket calculators and has already attracted the attention of number of theorists in India.

Management of Rural Development

The NSS Cell of Gujarat Vidyapith organised a Motivation Camp on Management of Rural Development for selected final-year degree students from all universities of Gujarat. This four-day orientation camp was held in the campus of the postgraduate centre of Rural Management conducted by the Gujarat Vidyapith at village Sadara. 65 students of 22 colleges attended the camp. Prof. Ramlal Parikh, Vice- Chancellor in his concluding address advised the youth to inculcate decision-making skills and contribute to national building and face realities of life boldly. The campers enjoyed the learning experience.

Youth Week at Gujarat Vidyapith

To mark the birth anniversary of Swami Vivekanand the NSS Cell of the Gujarat Vidyapith opened the Youth Week Celebration on January 12, 1992, with a youth seminar and sports meet at M.D.Rural Services College of the Gujarat Vidyapith at Sadara village. A number of programmes like exhibitions, sports and music contests, elocution and essay competitions, youth seminars and cultural events were organised by the NSS student volunteers, teachers and the local youths and social service bodies in the nearby concurrent field placement villages and social service institutes. On 19th January, 1992, the Government of Gujarat, in joint collaboration with all the universities held NSS volunteers rally from the Gujarat Vidyapith, Ahmedabad. Nearby 2000 volunteers (NSS) joined the rally. Shri M.N. Desai, Vice-Chancellor, Gujarat University and Prof. Ramlalbhai Parikh, Vice-Chancellor of Gujarat Vidyapith flagged off the rally. At the Gujarat College Campus the Gujarat Vidyapith NSS volunteers participated in March past, 100 mts race and NSS Day Exhibition. The Chief Minister Shri Chimanbhai Patel, Education Minister, Dr. Karsandas Soneri and State Minister of Home and Education, Shri Prabodh Pandya, complimented all those involved in NSS. Prof. Ramlalbhai Parikh observed that in spite of a number of drawbacks and failures of conventional education, NSS was a positive ray of hope.

Vacation Students Programme

The Inter-University Centre for Astronomy and Astrophysics (IUCAA) invites applications for the second Vacation Students Programme (VSP). Students selected under the VSP will spend 6 weeks at IUCAA to work on specific research projects under the supervision of the IUCAA faculty. The programme will conclude with seminar presentations of the projects by the participants and those, who perform well, will be preselected to join IUCAA as research students after the completion of their degree.

Those who enter the final year of the M.Sc. (Astronomy, Mathematics, Physics) /B.Tech./B.E. courses in the academic year of 1992-93 will be eligible to apply for VSP. Application giving the academic record of the applicant as well as two letters of recommendations mailed directly should reach Coordinator, Core Programme, IUCAA, by March 15, 1992. The selected candidates will be informed by April 15, 1992, for the programme to be held in May/June 1992.

Fee Exemption for Girl Students

The Haryana Government has decided to set up 100 new primary schools for girls during the current financial year and not charge tuition fees for girls upto graduation level. This was announced by the Chief Minister, Mr. Bhajan Lal, at Bhawani recently. The State Government would spend Rs. 74 crores on education next year as against half that amount in the current year. To provide education to every child a special programme for achieving 100 percent enrolment of boys and girls in the age group of 6-11 years had been launched as part of the silver jubilee celebrations, he said.

Stressing the need for promoting girls' education, the Chief Minister said the literacy rate in Haryana was 56 percent compared to the national average of 52 percent. But the percentage as regards girls' education was not satisfactory.

News from Agricultural Universities

Latest Technology in Agriculture

The training programme on Latest Technology in Agriculture for the Agricultural Officers of Indian Overseas Bank (IOB) was jointly organised by Tamil Nadu Agricultural University and Rural Banking Training Centre, IOB. Inaugurating the programme, Dr.C.Ramaswami, Registrar, TNAU, referring to credit as one of the most important inputs in Agricultural development, called upon the participants to further update their knowledge and skill aspects required for efficient transfer of new technologies to the farming community. "The answer to achieving the projected food production target for the population lies in increasing yields per unit area per unit time through the adoption of new farm technologies," he advocated.

Underlining the need for disseminating information on the post-harvest technology of various crops, Dr. Ramaswami emphasised that it had the capacity to provide more food, feed and fibre through scientific conservation, eliminating avoidable losses and making available more nutritive food and value-added products. He also added that water was an important input for crop production in tropical region like ours. Besides surface application, sprinkler and drip methods involved high technology, high water economy and high water use efficiency, he added.

Mr. Thiagarajan, Regional Manager, Indian Overseas Bank, in his address, called upon the participants to update their knowledge so as to enable efficient transfer of technology to the farming community at large.

HAU Forges Ahead

Chaudhary Charan Singh Haryana Agirucltural University (CCSHAU), Hisar which completed 22 years of its independent existence on February 2, 1992, has emerged as one of the leading universities of South-East Asia in terms of research accomplishment, contributions to agricultural education, extension education and facilities built up.

Highlighting the achievements made by the University, the Vice-Chancellor, Dr. Amrit Lal Chaudhry, said that in addition to the 110 high yielding varieties of crops, fruits and vegetables, its Variety Evaluation Committee had identified recently four vegetable crop varieties which include Hisar Shyamal, Hisar Pargati of Brinjal and Hisar Lalit and Hisar Arun of tomato. To meet the improved seed requirements, of the farmers, the university has been producing around 2000 quintals of improved seeds annually besides supplying 50,000 quintals of disease free seeds of sugarcane and sufficient number of fruit nursery plants.

In view of the emerging challenges and also to accelerate the research programmes further a new programme entitled 'Monitoring and Evaluation' has been introduced. Special emphasis has been laid on sustainable agriculture for exploring possibilities of gaining maximum yield. The problems of ground water, pollution, rising water table, saline soil and post-harvest technology are receiving serious attention of the researchers.

Known to be the second home for the farmers of the State the university has been organising more than 150 training programmes annually at its main campus, Hisar, besides thousands of demonstrations, trainings and field days at its Krishi Gyan and Vigyan Kendras spread throughout the State. The technical guidance that the university scientists have been providing to the farmers, farm women and others in the form of trainings, demonstrations, field days, visits, correspondence has benefited 1,92,000 persons working on agriculture and allied areas during the year 1991-92 alone. To cover all sections of rural people in these programmes of the university at grassroots level, a new concept of disease free village, seed village through whole village approach and micro-level planning has been introduced.

The Vice-Chancellor said that the university had attained breakthrough in the field of veterinary sciences, especially in goat research by producing embryo from slaughter house waste.

Rural Development Minister Visits HAU

"Having a rare collection of the vanishing rural antiques on one hand and guiding the nation with the new technology on the other, Chaudhary Charan Singh Haryana Agricultural University, Hisar, is a unique institution in itself", said Shri Uttambhai Patel, Union Minister of State for Rural Development, who visited the University recently. During his visit Shri Patel was taken round the research farms where he was shown the demonstration plots of different crops being developed with the new technology. The Minister was also explained the programmes implemented for control of rising water table.

Accompanied by the Vice-Chancellor, Dr.Amrit Lal Chaudhary and other senior officers of the University, the Minister visited the colleges of Agriculture, Animal Sciences, Basic Sciences and the Directorate of Extension Education. Seeing the cross-bred cows yielding 32 litres of milk per day, the Minister was highly impressed and complimented the scientists and wished them well with the programmes. On this occasion, the Vice-Chancellor explained to the Minister the research and extension programmes undertaken by the University for the welfare of the farming community.

News from UGC

Countrywide Classroom Programme

Between 24th February and 29th February 1992 the following schedule of telecast on higher education through INSAT-1D under the auspices of the University Grants Commission will be observed. The programme is presented in two sets of one hour duration each every day from 1.00 p.m. to 2.00 p.m. and 4.00 p.m. to 5.00 p.m. The programme is available on the TV Network throughout the country.

Ist Transmission

1.00 p.m. to 2.00 p.m.

24.2.92

"Properties of Fluids-II: Surface Tension & Capillarity"

"Management-VIII: Work Study"

"High Productive Ber Cultivation"

25.2.92

"Unusual Oxidation states"

"Note Taking and Note Making"

"The Dinosaur-II"

26.2.91

"N.D.T. - II: Dye Penetrant and Magnetic"

"Historical Excavations: Pumpuhar"

"Silicosis: An Industrial Disease"

27.2.92

"Computers in Office Automation"

"The Excavation"

"A Game of Chess"

28.2.92

"A Date with Maths-II"

"Indian Political Thinkers: Jawaharlal Nehru"

"Environment Impact Analysis"

29.2.92

"Yours Sincerely"
"The Pursuit"
"Week Ahead"

IInd Transmission

4.00 p.m. to 5.00 p.m.

24.2.92

"Remote Sensing -XXI: Contemporary Earth Observations Satellite"

"Management-IV: Organisation"

"Seed Processing"

25.2.92

"The Elements of Group IV and their Compounds"
"Banking : The Scene Today"

26.2.92

"Know them by Dialogue: Talk with Claude Garrigues"

"Impressions on Learning Architecture"

"Chemical Carcionogens in Food: An Over View"

27.2.92

"Nutritional Blindness"

"Celebration of Spring-I"

"All my Sons: Critical Appreciation-I"

28.2.92

"Quasi Crystals-Beyond Conventional Symmetry"

"Childhood Disabilities-I: Prenatal Causes"

"Clean Air-Healthy living"

29.2.92

" Yours Sincerely"

"The Pursuit"

"Week Ahead"

News from Abroad

Synthesised Enzyme for Anti-AIDS Drugs

Australian medical scientists have succeeded in synthesising several key human immuno deficiency virus(HIV) enzyme inhibitors in a project that holds promise of producing a new generation of anti-AIDS drugs.

The work is being carried out at the University of Queensland's Centre for Drug Design and Development in Brisbane.

The centre's principal research fellow, Dr.Paul Alewood, said the specific diseases being targeted by the research included cancer, AIDS and other viral diseases, rheumatoid arthiritis and other auto-immune diseases, and diseases of the central nervous system.

"The project is part of a thrust by our researchers to design drugs based on a structural understanding of naturally occuring macromolucules, especially proteins," he said. "In particular, we aim to discover small, stable molecules which mimic or inhibit protein functions. This process is being developed into an art form in our laboratories."

Dr. Alewood believes the eventual breakthrough to the development of new drugs depends on the skill of chemists capable of creating molucules which selectively bind to the desired targets. He said that since the identification of HIV-1 as the cause of the acquired immuno deficiency syndrome (AIDS),the proteins of HIV-1 had been intensively studied as potential targets of antiviral drugs.

"After the development of AZT as a first generation anti-AIDS drug, attention has turned to an HIV enzyme known as HIV-1 proteinase as an alternative target for new drug development. This key enzyme of the AIDS virus is essential for viral replication. Blocking the enzyme blocks the virus's ability to reproduce."

Dr. Alewood said a former researcher at the centre, Dr.Steve Kent, was the first to chemically synthesise this enzyme. "Scientists since have solved the X-ray crystal structures of both genetically engineered and chemically synthesised HIV-1 proteinase, with and without inhibitors.

Dr. Alewood said major research projects being undertaken by the centre included:

- developing inhibitors of enzymes or growth factors vital for cancer growth;
- synthesising the funnel web spider toxin;
- synthesising artificial enzymes;and
- developing anti-arthritic drugs, work that aims at developing treatments for chronic inflammatory conditions, altering the disease processes rather than merely treating the symptoms.

Australia Prize for scientific achievement

Australia's richest prize for scientific research, the $250.000 Australia Prize, will be awarded this year in the field of physical sciences relating to mining or the processing of mineral resources.

The prize is an international award established last year by the Asustralian Government to recognise outstanding science and technology achievement promoting human welfare.

The inaugural Australia Prize was shared by an Australian, an American and a German scientist for their development of genetic engineering of plants and microbes.

The Minister for Science, Mr Ross Free, said the prize was an indication of the government's continuing commitment to excellence in science and technology. "It is important or all Australians to be aware of the role that science and technology can play in our social and economic development," he said. "The Australia Prize recognises the importance of applying the results of science and technology in the modern world".

Nomination for the 1992 Australia Prize are being sought world-wide. The winner/winners will be announced in January next year.

For further information, contact may be established with Dr Carmel

Statham, Director, Science and Technology Awareness, Department of Industry, Technology and Commerce, GPO Box 9839, Canberra, ACT 2601.

AUCC International Division Conference 1992

The Association of Universities and Colleges of Canada is organising a Conference on 'Seeking innovation: international cooperation among universities' on September 21-22, 1992, at St John's, Newfoundland, Canada.

The Conference sessions will include : (1) Opening Plenary – Is the university on the cutting edge of globalization; (2) Workshops : (i) Centres of excellence: a force for internationalization?, (ii) Stepping beyond the university boundaries: innovations in faculty and student mobility, (iii) The internationalization of knowledge through industry/university cooperation, (iv) Sharing the benefits: learning from the South, (v) Innovations in education: from the blackboard to the keyboard, (vi) After UNCED: universities and the dilemma of multi-disciplinarity, and (vii) Thinking gobally, acting locally: globalization and university community outreach; and (3) Closing Plenary – Is the university on the international action-agenda for the 21st century?

All those interested in international cooperation in higher education, especially university presidents, international education administrators, faculty, international project coordinators, students and representatives from government, national and international agencies can participate in the conference. Further details can be had from: Kathryn Campbell, International Division, AUCC, 151 Slater St, Ottawa, Ontario, K1P5N1, Canada.

Afro-Asion Psychological Congress

The Second Afro-Asian Psychological Congress will be held in Beijing on August 25-28, 1992. The theme of the Congress is Psychology for Social Development and Human Welfare. The Congress will provide an opportunity for Afro-Asian psychologists to exchange their ideas and promote cooperation, and benefit the development of psychology in the two continents.

The Program of the Congress will include invited lectures, symposia, and thematic sessions in the following areas: General psychology, Develomental psychology, Cognitive psychology, Engineering psychology, Psychophysiology, Educational psychology, Family psychology, Sport psychology, Psychology of law, Mental test Experimental psychology, Clinical psychology, Aging psychology, Neuropsychology, Management psychology, Comparative psychology, Social psychology, Psychology of religion, Abnormal psychology, and History of psychology.

Further details with regard to participation, etc. may be had from Professor Wang Su, Congress Secretariat, Department of Psychology, Peking University, Beijing 100871, People's Republic of China.

AMRAVATI UNIVERSITY

Employment Notice

NO.AU/102/B-142/92. **Dated:3/2/1992**

Applications are invited for the post of REGISTRAR

Pay Scale: Rs.4100-125-4850-150-5300 (likely to be revised)

(Total emoluments on initial basic:-Rs.6305/-)

Qualifications:

1. A Master's degree in not less than Second Class of an Indian University or an equivalent qualification.

2. At least 10 years' teaching and/or Administrative experience as an Officer in a University or an Institution affiliated to a University or in Government service.

3. Proficiency in Marathi.

Note: The candidates who have applied previously in response to advertisement dated 11.12.1991 for the post need not apply again as their previous applications will be considered in the light of above said qualifications.

Age not less than 35 years on the last date of receipt of application.

Prescribed application form with details of qualifications, can be had on payment of Rs.10/- and Rs.5/- in case of BC candidates (SC,ST,VJNT) (Nonrefundable) by Cash/Bank draft payable to the undersigned alongwith self addressed envelope (12"x15") affixing postal stamps worth Rs.4/- upto 29th February, 1992. For obtaining application form by post the envelope bearing such requisition should indicate the name of post for which Form is required. The last date of receipt of application form alongwith Rs.15/- and Rs.7.50 in case of BC candidates (SC,ST,VJNT) as application fee by Cash/Bank draft payable to undersigned is **4th March, 1992.**

REGISTRAR

AIU Library & Documentation Services

One of the important functions of the Association of Indian Universities is to act as a clearing house of information on higher education in the country. Towards this end the AIU Library is engaged in collection building and developing instruments for the dissemination of research information. Over the years a valuable collection of books and documents on different aspects of higher education has been acquired.

The library has also developed Bibliography of Doctoral Dissertations as an effective tool in the dissemination of research information. Retrospective bibliographies covering the period 1857-1970 and 1970-75 were the first to appear. Effective 1975, however, the bibliography is issued annually in two volumes. One volume deals with Natural and Applied Sciences while the other records doctoral degrees awarded in Social Sciences and the Humanities. In addition to the normal bibliographical details like the name of the Research Scholar, the title of the thesis, years of registration for and award of the degree, and the name of the University accepting the thesis for award of a doctoral degree, the bibliography also gives name and complete address of the supervising teacher and an availability note that seeks to inform whether a copy of the dissertation is available for consultation and use in the University Library/Department or Registrar's Office.

The columns 'Theses of the Month' and 'Research in Progress' are intended to cut out the time lag between the receipt of information and its inclusion in the bibliography. Such universities as are not sending us regular information in respect of doctoral theses accepted and research scholars enrolled are welcome to make use of these columns.

The library also receives about a 100 periodical titles on higher education. All these are indexed regularly and a select list appears every month as 'Current Documentation in Education'. Similarly the column 'Education News Index' reports editorials and articles on higher education published in over 20 newspapers that are received in the library from all over the country.

The Library is open from 9.00 a.m. to 5.30 p.m. Monday through Friday.

CURRENT DOCUMENTATION IN EDUCATION

A list of select articles culled from periodicals received in AIU Library during January 1992

EDUCATIONAL PHILOSOPHY

Francis,Leslie. Theology of education. **British J Ednl Studies** 38(4), 1990, 349-64.

Habgood, John. Are moral values enough? **British J Ednl Studies** 38(2), 1990, 106-15.

EDUCATIONAL PSYCHOLOGY

Entwistle, N J and others. Student failure: Disintegrated patterns of study strategies and perceptions of the learning environment. **Hr Edn** 21(2), 1991, 249-61.

Pollio, Howard R and others. Patterns of parental reaction to student grades. **Hr Edn** 22 (1), 1991, 31-42.

Sheppard, Christine and Gilbert, J. Course design, teaching method and student epistemology. **Hr Edn** 22(3), 1991, 229-49.

Svinicki, Marilla D. Practical implications of cognitive theories. **New Directions for Teaching & Learning** 45, 1991, 27-37.

Trigwell, Keith and Prosser, Michael. Improving the quality of student learning: The influence of learning context and student approaches to learning on learning outcomes. **Hr Edn** 22(3), 1991, 251-66.

EDUCATIONAL ADMINISTRATION

Cammelli, Andrea. Foreign students in Italy. **HrEdn** 21(3), 1991, 359-76.

Enteman, Willard F. Managing the consultation. **New Directions for Hr Edn** 73, 1991, 55-65.

Porter, Oscar F. Where do we go from here: Looking beyond student aid and access to persistence. **New Directions for Hr Edn** 74, 1991, 75-90.

Seidel, Hinrich. Internationalisation: A new challenge for universities. **Hr Edn** 21(3), 1991, 289-96.

Teichler, Ulrich and Steube, Wolfgang. Logics of study abroad programmes and their impacts. **Hr Edn** 21(3), 1991, 325-49.

Toft, Robert J. Managing change creatively. **New Directions for Hr Edn** 73, 1991, 75-94.

Wagner, Alan and Schnitzer, Klaus. Programmes and policies for foreign students and study abroad: The search for effective approaches in a new global setting. **Hr Edn** 21(3), 1991, 275-88.

Yorke, Mantz. Performance indicators: Towards a synoptic framework. **Hr Edn** 21(2), 1991, 235-48.

TEACHERS & TEACHING

De Neve, Hubert M F. University teachers' thinking about lecturing: Student evaluation of lecturing as an improvement perspective for the lecturer. **Hr Edn** 22(1), 1991, 63-91.

Rando, William C and Menges, Robert J. How practice is shaped by personal theories. **New Directions for Teaching & Learning** 45, 1991, 7-14.

Stetson,Nancy E. Implementing and maintaininga classroom researchprogram for faculty. **New Directions for Teaching and Learning** 46, 1991, 117-30.

Svinicki, Marilla D. Theories and metaphors we teach by. **New Directions for Teaching & Learning** 45, 1991, 111-9.

EDUCATIONAL TECHNOLOGY

Niemiec, Richard P and Walberg, Herbert J. Effects of computers on learning. **Intl J of Ednl Research** 17(1), 1992, 99-108.

Olson, John. Trojan horse or teacher's pet?: Computers and the teacher's influence. **Intl J of Ednl Research** 17(1), 1992, 77-85.

Suppes, Patrick. Instructional computers: Past, present, and future. **Intl J of Ednl Research** 17(1), 1992, 5-17.

EDUCATIONAL EVALUATION

Angelo, Thomas A. Ten easy pieces: Assessing higher learning in four dimensions. **New Directions for Teaching and Learning** 46, 1991, 17-31.

Bailey Allard, P. Why they didn't learn what we wanted them to learn. **New Directions for Adult and Continuing Edn** 49, 1991, 55-66.

Pike, Gray R. Using structural equation models with latent variables to study student growth and development. **Research in Hr Edn** 32 (5), 1991, 499-524.

ECONOMICS OF EDUCATION

Franco, Augusto. Financing higher education in Colombia. **Hr Edn** 21(2), 1991, 163-76.

Franke, Ann H. Private universities in Australia. **Minerva** 29(3), 1991, 294-320.

Galabawa, Justinian C J. Funding, selected issues and trends in Tanzania higher education. **Hr Edn** 21(1), 1991, 49-61.

Hansen, Janet S. Shifting roles of parents and students. **New Directions for Hr Edn** 74, 1991, 21-31.

Hartle, Terry W and Kusnan, Joseph C. Direct loans to students: An idea whose time has (Finally) come ? **Change** 23(6), 1991, 18- 21.

McGavin, P A. Reform in the financing of higher education in Papua New Guinea. **Hr Edn** 21(1), 1991, 27-48.

Throsby, C D. Financial impact of foreign student enrolments. **Hr Edn** 21(3), 1991, 351-8.

Tilak, Jandhyala B G and Varghese, N V. Financing higher education in India. **Hr Edn** 21(1), 1991, 83-101.

Weifang, Min. Higher education finance in China: Current constraints and strategies for the 1990s. **Hr Edn** 21(2), 1991, 151-61.

LIBRARIES & BOOKS

Nayyar, Bimla. Intellectual property rights and developing countries. **Yojana** 35(21), 1991, 4-7, 20.

COMPARATIVE EDUCATION & COUNTRY STUDIES

Bor, Wout van den and Shute, James C M. Higher education in the Third World: Status symbol or instrument for development? **Hr Edn** 22(1), 1991, 1-15.

Gertel, Hector R. Issues and perspectives for higher education in Argentina in the 1990's. **Hr Edn** 21(1), 1991, 63-81.

Navarro, Juan Carlos. Venezuelan higher education in perspective. **Hr Edn** 21(2), 1991, 177-88.

Post, David. Peruvian higher education: Expansions amid economic crisis. **Hr Edn** 21(1), 1991, 103-19.

Psacharopoulos, George. Higher education in developing countries: The scenario of the future. **Hr Edn** 21(1), 1991, 3-9.

de Mello e Souza, Alberto. Higher education in Brazil: Recent evolution and current issues. **Hr Edn** 21(2), 1991, 223-33.

THESES OF THE MONTH

A list of Doctoral Theses accepted by Indian Universities

BIOLOGICAL SCIENCES

Biophysics

1. Madhusudan. **Crystal structure of low humidity monoclinic lysozyme at 1.75 A resolution.** IISc.

2. Raychaudhuri, Maitri. **Biophysical studies on the interaction of Chlorpromazime (CP2) with hemoglobin.** Calcutta.

3. Srinivasan, N. **Conformational studies on globular proteins: Data analysis.** IISc.

4. Vijaya Sai Reddy, B. **Concanavalin A - Carbohydrate interactions: A computer modelling approach.** IISc.

Biochemistry

1. Bhooma, T. **Biochemical and immunological investigations in rats exposed to aorylonitrile.** Madras.

2. Chakrabarti, Abhijit. **Complex carbohydrate-lectin interaction at the interface: A model for cell-cell adhesion.** IISc.

3. Datta, Sibhari. **Studies on the expression of beta-lactamase gene(bla) of a broad host range plasmid RP4 in** Azospirillum brasilense. Calcutta.

4. Gaikwad, Amos Solmon. **Regulation of the respiratory function of brown adipose tissue mitochondria.** IISc.

5. Madan Kumar, A. **Studies on the molecular mechanism of action of 5-fluorouracil: Interaction of amino acyl-tRNA synthetases with 5-fluorouracil substituted transfer RNA from rat liver.** IISc.

6. Makar, Tapas Kumar. **Effect of long-term treatment of neuroleptic drugs on rat brain with special reference to striatal region.** Calcutta.

7. Manihar, Sunita Rajesh. **Studies on fresh water fish lectins.** Delhi.

8. Rajendran, S. **Studies on the major protein components of sesame seed,** Sesamum indicum L. Mysore. Dr V Prakash, Scientist-in-charge, Biophysical Chemistry Unit, Central Food Technological Research Institute, Mysore.

9. Seetharamaiah, G S. **Studies on oryzanol.** Mysore. Dr N Chandrasekhara, Area Coordinator, Department of Food Chemistry, Central Food Technological Research Institute, Mysore.

10. Sukanya, N. **Serine hydroxymethyltransferase from mung bean,** Vigna radiata **seedlings: A new pyruvoyl enzyme.** IISc.

Biotechnology

1. Assadi, Mahnaz Mazaheri. **Biodegradation of crude oil.** Roorkee.

2. Lakshmi, R. **Biotechnological aspects of hydrogen production in local isolates of anoxygenic purple-phototrophic bacteria.** Osmania.

3. Patel, Anami Ramanbhai. **Some studies on optimization of energy recovery from water hyacinth and cattle dung using biogas technology.** Patel. Dr Datta Madamwar.

Microbiology

1. Elanchozhiyan, M. **Studies on herpes simplex viruses and human infections, and evaluation of the anti herpes viral properties of an Indian medicinal plant,** Pongamia pinnata Linn. Madras.

Botany

1. Arumugam, N. **In vitro propagation and conservation of** Podophyllum hexandrum Royle **- An endangered medicinal plant.** Delhi.

2. Basu, Bulurani. **Studies on some aspects and economics of paddy straw mushroom cultivation in West Bengal.** Calcutta.

3. Bhattacharyya, Bhupendra Narayan. **Effect of plant growth regulators on dormancy, growth, flowering and yield of** Coleus parviflorus. Gauhati. Dr C M Sarmah, Prof, Department of Botany, Gauhati University, Guwahati.

4. Chattopadhyay, Saumen. **Studies on polyamines in relation to source and sink organ in plants.** Calcutta.

5. Das, Yagnabalkga. **Threonine production by mutants of** Arthrobacter globiformis. Burdwan. Prof S P Chatterjee, Department of Botany, University of Burdwan, Burdwan.

6. Dasgupta, Santa. **Physiological and biochemical aspects of boron toxicity in different plant materials.** Calcutta.

7. Gupta, Vibha. **Genetic transformation and genome analysis of** Brassica nigra **(Var IC 257).** IISc.

8. Haldar, Anupkumar. **Studies on phosphate solubilization and nitrate reductase activity of** Rhizobium meliloti. Calcutta.

9. Jain, Sudhir Kumar. **Physio-chemical study of fungi causing otomycosis.** H S Gour. Prof S C Agrawal, Department of Botany, Dr Hari Singh Gour Vishwavidyalaya, Sagar.

10. Jana, Kamal Kumar. **Studies on mushroom culture with special reference to some edible agarics.** Calcutta.

11. Khan, Ruhul Islam. **Studies in monocarpic senescence of plants.** Burdwan. Prof Monojit Acharya Choudhuri, Department of Botany, University of Burdwan, Burdwan.

12. Mandi, Kalyan Kumar. **Studies on chromosomes DNA estimation and chemical constituents of different members of Scitemineae.** Calcutta.

13. Mondal, Sunanda. **Production of methionine by microorganisms.** Burdwan. Prof Siba Prosad Chatterji, Department of Botany, University of Burdwan, Burdwan.

14. Mukhopadhyay, Ramprasad. **Studies on collagenase and keratinase producing soil actinomycetes.** Calcutta.

15. Patil, Bhagwat Murlidhar. **Floristic and palynological investigations in the monocot flora of Chandrapur and Gadchiroli Districts of Vidarbha Region of Maharashtra State.** Nagpur. Dr K H Makde, Department of Botany, Nagpur University, Nagpur.

16. Ravikumar, D R. **Studies on fungi from mangroves of the East coast of India.** Madras.

17. Saha, Sujata. **In vitro studies of** Nicotiana tabacum var **Jayasri.** Calcutta.

18. Shma Kumari. **Algae as biological indicator of pollution in fresh water habitats of Jammu, J & K.** Jammu. Dr S Kant.

19. Shukla, Rakesh Kumar. **An ecological study of interactions between wild animals and vegetations in Pench Sanctuary and its environ.** H S Gour. Dr P K Khare, Lecturer, Department of Botany, Dr Hari Singh Gour Vishwavidyalaya, Sagar.

20. Sreenivas, Samavedam Satya. **Studies on the problems of eutrophication and weed growth in certain ponds of Central Gujarat.** Patel. Dr B C Rana, Reader, Department of Biosciences, Sardar Patel University, Vallabh Vidyanagar.

Agriculture

1. Barbind, Laxmikant Digamberrao. **Heterosis and combining ability studies in brinjal,** Solanum melongena **Linn for yield, yield components, little leaf, shoot and fruit borer.** Marathwada Agrl. Dr Y W Nerkar, Assoc Dean and Principal, College of Agriculture, Latur.

2. Chamkaur Singh. **Determining economic threshold level for the control of bollworms of cotton in Punjab.** PAU.

3. Mehta, Harilal Dahyabhai. **Heritability, genetic advance and stability for grain yield, yield components and grain quality in the early generations of upland rice crosses.** Marathwada Agrl. Dr Y S Nerkar, Assoc Dean and Principal, College of Agriculture, Latur.

4. Pandurange Gowda, K T. **Host resistance, loss assessment and management of** Exserohilum turcicum **leaf blight of maize.** Mysore. Dr H Shekara Shetty, Prof, Post Graduate Department of Applied Botany, University of Mysore, Mysore.

5. Sadawarti, Bipen Kumar. **Investigations on root rot and head rot of sunflower,** Helianthus annuus L. PAU.

6. Shamet, Goverdhan Singh. **Propagation of some commercial West Himalayan connifers through stem cutting.** Y S Parmar. Prof N K Joshi, Director, FRI and Colleges, P O New Forests, Dehradun.

7. Shivankappa, B. **Studies on a few aspects of physiology and biochemical genetics in different breeds of silk worm,** Bombyx mori L. Bangalore. Dr S R Ananthanarayana, Department of Sericulture, Bangalore University, Bangalore and Dr M N Narasimhanna, Director (Retd), Central Silk Board, Government of India, Bangalore.

8. Tilak Raj. **Genetic amelioration of xA and B genomes of cultivated wheats following** Triticum aestivum X T durum **hybridization.** HP. Dr Tashi Dawa, Department of Plant Breeding and Genetics, College of Agriculture, Palampur.

Zoology

1. Banerjee, Arun Kumar. **Ecological studies on the avifauna of Gir forest.** Saurashtra. Late Dr R M Naik.

2. Bhagat, Lakshmi. **Compensatory ovarian hypertrophy and its significance for the characterization of pineal antigonadotrophic activity.** Delhi.

3. Chandrashekara, K. **Social biology of the tropical primitively eusocial wasp,** Ropalidia marginate **(Lep) (Hymenoptera: Vespidae).** IISc.

4. Das, Seema. **Nutritional basis of resistance of certain maize cultivars to the spotted stem borer,** Chilo partellus Swinhoe. Delhi.

5. Deka, Baljit Kumar. **Study of the effect of certain environmental factors on reproductive behaviour of guinea pig.** Gauhati. Dr Pratul Goswami, Director, Institute of Advanced Study in Science and Technology, Guwahati.

6. Durairaj, S. **Studies on the toxicity of quinalphos, phenthoate and their combination on the neuro-chemistry of the edible fish,** Oreochromis mossambicus. Madras.

7. Durga Prasad, Yandapalli. **Studies of nuclear polyhedrosis virus of the insect** Spodoptera litura **and its response to juvenile**

hormone. Visva-Bharati. Prof Samir Bhattacharya, Department of Zoology, Visva-Bharati, Santiniketan.

8. Durga Prasad, Yerrabolu Venkata Kanaka. **Pollution studies on haematology and bioaccumulation in relation to heavy metals in** Liza macrolepis **Smith and** Liza parsia **Hamilton and Buchanan from Visakhapatnam harbour.** Andhra.

9. Ghosh, Devjani. **Studies on the biology and culture of** Pleuroxus similis **(Cladocera: Chydoridae).** NEHU. Dr R George Michael, Visiting Fellow, Department of Zoology, North-Eastern Hill University, Shillong.

10. Halder, Siddhartha. **Isolation of carp brain gonadotropin releasing hormone (GnRH) and its bioactivity in homologous and heterologous species.** Visva-Bharati. Prof Samir Bhattacharya, Department of Zoology, Visva Bharati, Santiniketan.

11. Maheswarudu, Gidda. **Studies on biochemical composition of haemolymph and muscle of penaeid prawns,** Metapenaeus monoceros **Fab,** Penaeus monodon **Fab and** P indicus **H Milne Edwards.** Andhra.

12. Mazumdar, Hirendra Kumar. **Biomass productivity and nutrient budgeting in different agroecosystems.** Y S Parmar. Dr P K Khosla, Director of Extension Education, Dr Yashwant Singh Parmar University of Horticulture and Forestry, Nauni, Solan.

13. Mitra, Shampa. **C-reactive protein in the freshwater teleost** Channa punctatus: **Interaction with xenobiotics.** Visva-Bharati. Prof Shelley Bhattacharya, Department of Zoology, Visva-Bharati, Santiniketan.

14. Pal, Anuradha. **Distribution of** Collembola **and** Acarina **in relation to soil conditions and fungal population in undisturbed grassland, forest floor and fungicide treated plots.** Burdwan. Prof Subrata Roy, Department of Zoology, University of Burdwan, Burdwan.

15. Pandharipande, Tukaram Narayan. **Establishment of fat body cell line from** Mythimna Sp **(Lepidoptera: Noctuidae) and its utilization for in vitro propagation of** Nosema locustae **(Protozoa: Microsporida).** Nagpur. Dr A M Khurd, Lecturer, Department of Zoology, Nagpur University, Nagpur and Dr S K Raina, Senior Research Scientist, The International Centre of Insect Physiology and Ecology, Nairobi, Kenya.

16. Paul, V F. **Study of avian integument as a model for evaluating altered chemo-and histo-differentiation induced by certain chemical agents.** Baroda.

17. Raval, Pragna Jasvantrai. **Histopathological and biochemical studies in rabbits under aflatoxin induced toxaemia.** Bhavnagar. Dr R J Verma, Lecturer, Department of Life Sciences, Bhavnagar University, Bhavnagar.

18. Ray, Dulal Chandra. **Studies on the ecology and control of vegetable crops in Tripura.** Calcutta.

19. Saha, Ratan Kumar. **An ecological study of two lentic habitats of Agartala, India.** Calcutta.

20. Silas, M Ramesh. **Studies on the spermatophores of the sand lobster,** Thenus orientalis **Lund (Decapoda: Scyllaridae) from the Madras coast.** Madras.

21. Somanadha Rao, Paluri. **Studies on zooplankton of Waltair Coast with reference to seasonality, larvae, amphipods and esterase enzymes.** Andhra.

Medical Sciences

1. Baghel, Madhaw Singh. **Parinama shula and allied disorders and their management with rasayana drugs.** Gujarat Ayur. Prof Gurdip Singh, Head, Department of Kayachikitsa, Gujarat Ayurved University, Jamnagar.

2. Bhattacharyya, Utpala. **Studies on active endogenous substances in malaria.** Calcutta.

3. Dave, O D. **Studies on cancer.** Prof Kulwant Singh, Head,

Department of Shalya-Shalakya, Gujarat Ayurved University,Jamnagar.

4. Oommen, Anna. **A study of the hyperkinetic syndrome of childhood.** Bangalore. Dr (Mrs) Malavika Kapur, Department of Clinical Psychology, National Institute of Mental Health and Neuro Sciences, Bangalore.

5. Srinivasan, J. **Construction and development of a vaccinia based recombinant antifertility vaccine.** JNU. Prof G P Talwar, Director, National Institute of Immunology, New Delhi.

6. Trivedi, Sunil Niranjan. **Role of hormone receptors and tumour makers in the management of breast carcinoma.** Baroda.

7. Unnikrishna Pillai, K. **A standard preparation of haritala bhasma and its clinical efficacy in certain skin disease.** Gujarat Ayur. Prof H S Sharma, Head, Department of Rasashastra and Bhaisajya Kalpana, Gujarat Ayurved University, Jamnagar.

8. Valera, M S. **Clinical studies on timira.** Gujarat Ayur. Prof Kulwant Singh, Head, Department of Shalya-Shalakya, Gujarat Ayurved University, Jamnagar.

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1. Kernel Singh. **Genetics of egg-components and their maternal determinants in chickens.** PAU.

EDUCATION NEWS INDEX

A list of select articles and editorials on education from newspapers received in the AIU Library during January 1992

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Jain, Manisha. Developing a child's personality. **The Statesman** 17.1.92.

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Banerjee, Kamala. Falling standards: Teacher-student alienation. **The Statesman** 16.1.92.

Buch, M N. Spreading inequity. **The Hindustan Times** 9.1.92.

———What price reservations? **The Hindustan Times** 8.1.92.

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Dey, Bata K. New Mandal order: Problems compounded. **The Hindustan Times** 6.1.92

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STABILITY IN education (Editorial). **The Hindu** 29.1.92.

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Lakshminarayanan, K R. What is vital to learning English. **The Hindu** 14.1.92.

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NATIONAL SCIENCE Centre dedicated to nation (Editorial). **National Herald** 14.1.92.

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Ramachandran, R. Indian Science Congress: Themes of futility. **The Economic Times** 11.1.92.

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Adhikari, Ruchira. Towards new frontiers: Jamia Millia Islamia. **The Pioneer** 12.1.92.

Colmcille, Mother M. 150 years of an institution: Loreto House, Calcutta. **The Statesman** 12.1.92.

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Gyan Singh. Untold story: Nehru Institute of Mountaineering, Uttarkashi. **The Hindustan Times** 12.1.92.

Ravi Kennedy, S. Some old & famous educational institutions: Osmania University, Hyderabad University, Gandhi Medical College. **Deccan Chronicle** 1.1.92.

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Sudhir, T S. National School of Drama: Making the stage your world. **The Pioneer** 17.1.92.

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Ghosh, Arun. Amiya Dasgupta: Honoured abroad, unsung at home. **The Economic Times** 15.1.92.

Kanigel, Robert. Man who knew infinity: Ramanujan. **The Telegraph** 18.1.92.

Karnik, S D. Ranade: Visionary, scholar and reformer. **The Times of India** 18.1.92.

CALENDAR OF EVENTS

Proposed Date of the Event	Title	Objective	Name of the Organising Department	Name of the Organising Secretary/ Officer to be Contacted
March 9-15, 1992	International Conference on Experiential Learning	To promote experiential learning and other scientific, educational, cultural and related activities and spiritual pursuits	Indian Society for Experiential Learning, Pondicherry	Prof. S. Mohan, Prof. of Physics, Pondicherry University, Pondicherry
April 8-10, 1992	**Programme** on Profit **Planning**: Cost, Pricing & **Liquidity Management at Ahmedabad**	To understand cost-price-profit relationship & its relavance in corporate management intending to survive & prosper and also to highlight planning & management area in all its complexities	The Institute of Costs & Works Accountants of India	Mrs. Rama Kashinath, Joint Director (PD & P) The Institute of Costs & Works Accountants of India, 3, Institutional Area, Lodi Road, New Delhi - 110 003
August 11-16, 1992	8th World Congress for Rural Sociology	Theme : Rural Society in the Changing World Order	International Rural Sociology Association, USA	The Pennsylvania State University, 306, Agricultural Administration Buliding, University Park, Pennsylvania - 16802
August 16-19, 1992	55th Annual Meeting of the Rural Sociological Society	Theme : Rurality and the Global Environment	Rural Sociological Society, USA	-do-
August 26-28, 1992	Second International ISKO Conference on Cognitive Paradigms in Knowledge Organisation	To provide a forum for scholars working in the field of knowledge organisation	Madras Library Association in collaboration witn Sarada Ranganathan Endowment for Library Science and University of Madras	Mr. S. N. Kumar Conference Secretariat, 5, Sivaganga Road, Madras-600 034
October 26-31, 1992	Third IAU Mid-Term Conference to be held at Alexandria, Egypt	Theme:Adaptation of University Management Structures and Strategies for New Requirement	International Association of Universities (IAU), France	Dr Franz Eberhard, Secretary General, International Association of Universities, 1, rue Miollis, 75732 Paris Cedex 15 France
November 9-13, 1992	16th World Conference on Distance Education for the Twenty-First Century	To give a view of the aspects of development in Distance Education in the Twenty-First Century	International Council for Distance Education, in cooperation with Sukhothai Thammathirat Open University (STOU), Thailand	Mr. Bruce Scriven, Program Chair—16th World Conference of ICDE, Queensland University of Technology, Locked Bag No. 2, Red Hill Queensland 4059, Australia
November 25-30, 1992	IAEWP 6th World Congress	The Congress will deal with (1) Socail Welfare, (2) Health Care, and (3) Educational Needs	International Association of Educators for World Peace (IAEWP) in co-operation with Social Action Movement, Malta	Dr. Suryanath Prasad, International Co-ordinator, IAEWP 6th World Congress & World President, IAEWP, Janta College of Education, P.O. Box 113, Chandrapur-442 401 Maharashtra, India

MONUMENTAL WORK OF THE YEAR

HISTORY OF LOGIC

In 4 volumes

ANTON DUMITRIU

Since ancient China thinkers throughout the world have studied logic, but not until Carl Prantl wrote "Geschichte der Logik im Abendlande" (1855-1870) was an attempt made to compile a history of the subject. This, however, only goes up to the end of the 16th century. I.M. Bochenski's "Formale Logic", written in 1956, is an important book containing an anthology of texts, but dealing mainly with the rise of mathematical logic. W. and M. Kneale brought out in 1962 "The Development of Logic", a most valuable book dealing with many aspects of the history of logic. Professor Dumitriu's book is the most comprehensive work of reference on this subject. It is an all embracing work which attempts to treat exhaustively the whole range of this discipline, and covers subjects such as the methodology of science, the problem of categories, the dialectics, the philosophy of logic etc. By the use of extensive quotations Professor Dumitriu enables us to follow his argument as he develops it, and as it develops we can see the justification of his conclusion that "Logic is its history, it is the summation of all its moments". Dumitriu's "History of Logic" has been described by eminent scholars as "an *opus magnum* of the history of logic".

This book is essential reading for anyone studing philosophy. It will be the standard reference book in the history of logic and as such indispensable in all learned libraries. Those researching in pure mathematics will find the section of mathematical logic invaluable.

Dr. Dumitriu was in turn professor of mathematics, professor of logic at Bucharest University, and Director of Research in Classical Logic at the Roumanian Academy. For his work he has received many awards in his own country and abroad, and has been elected a member of several foreign scientific institutions. He has lectured in various European Universities and contributes to numerous international journals. Among his published books are:"The Philosophical Foundations of Science" (1938), "Logical Paradoxes" (1944), "David Hilbert's Logic" (1944), "Solution of Logico-Mathematical Paradoxes" (1966), "Theory and System" (in English, 1970), "Theory of Logic" (1973).

He held his first course in the history of logic at the University of Bucharest in 1947-1948, which led to the publication in Bucharest of the first edition of "*Istoria Logicii*" by Editura Didactica si Pedagogica in 1969.

In 1971, the author was asked by the international Review *Scientia* to make a summary of the whole book, which appeared in two successive issues of this journal in the same year, simultaneously in English and French.

The second edition of "*Istoria logicii*", revised and greatly augmented, was published by the same Roumanian Publishing House (Bucharest, 1975).

The present English version is the translation of this second edition.

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Jyoti Vihar: Burla

Advertisement NO. 4380/Estt.I/I-A.o.-9/3/92 **Dated : 29.1.92**

Applications in the prescribed forms with attested copies of mark-sheet and certificates of each examination passed are invited for the following posts by 3/3/1992:

Sl. No.	Name & No. of vacancy and Scale of Pay	Mode of reservation	Minimum Qualification
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Candidates in service must apply through proper channel.

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All correspondence be addressed to Registrar by designation only.

P.M. Nayak
REGISTRAR

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Entrance Qualification: M.A. in the language concerned (for Arabic, M.O.L.) with a high second class or Grade B average (55%)

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M.A. in the language concerned (for Arabic, M.O.L.) and a minimum of 5 years' experience teaching the language concerned at any recognised institution.

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(6 Semesters -3 years)

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M.A. in the language concerned (for Arabic, M.O.L.) with at least a second class or grade B average and PGCT/PGDT with at least an overall grade C

OR

M.Litt./M.Phil. or an equivalent qualification in the language concerned

OR

M.A. in the language concerned (for Arabic, M.O.L.) and a minimum of 7 years' experience teaching the language concerned at any recognised institution.

Note:

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BASIC SCIENCES & HUMANITIES: Botany, Chemistry, Biochemistry, Business Administration.	9.3.92
Genetics, Zoology, Microbiology, Economics & Sociology, Statistics.	10.3.92
VETERINARY SCIENCE: Anatomy & Histology, Bacteriology and Virology, Gynaecology & Obstetrics, Surgery & Radiology, Medicine, Pharmacology, Parasitology, Pathology, Physiology.	11.3.92
AGRICULTURAL ENGINEERING: Processing & Agricultural Structures, Electrical Engineering, Agro Industrial Processing.	11.3.92
HOME SCIENCE: Foods & Nutrition, Home Science Education & Extension.	11.3.92
ENERGY STUDIES IN AGRICULTURE: Energy Science & Technology (in Engineering and Economics)	11.3.92
MASTER'S PROGRAMME	
AGRICULTURE: Agricultural Meteorology	5.3.92
VETERINARY SCIENCE: Bacteriology & Virology, Medicine.	5.3.92
AGRICULTURAL ENGINEERING: Soil & Water Engineering, (Irrigation and Drainage, Soil & Water Conservation Engineering), Processing & Agricultural Structures.	6.3.92

MINIMUM QUALIFICATIONS/FELLOWSHIPS/ STIPENDS/RESERVATION OF SEATS : Details in the University Prospectus.

PROSPECTUS AND APPLICATION FORMS: Available from the Registrar, Punjab Agricultural University, Ludhiana, on payment of Rs. 15/- per copy by cash at counter or by crossed Indian Postal Order (s) for Rs.20/- payable to the Comptroller, Punjab Agricultural University at PAU Post Office, Ludhiana.

LAST DATE FOR RECEIPT OF APPLICATIONS: 28th February 1992.

INTERVIEW: Interview will be held at 9.00 a.m. in the Pal Auditorium Complex, PAU, Ludhiana, as per above dates.

NOTE: No separate interview letter will be issued. No T.A./D.A. is admissible.

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For application form for admission, and prospectus, please write to the Editor, CIEFL, Hyderabad - 500 007, with a crossed postal order for Rs. 15/- drawn in favour of the Registrar, CIEFL, Hyderabad-500 007.

Application forms can also be had from the CIEFL Regional Centre, Lucknow (at Motimahal Campus, 2, Rana Pratap Marg) and Shillong (Nongthymmai) on payment of Rs.15/- in cash or through crossed postal order drawn in favour of the Registrar, CIEFL, Hyderabad- 500007.

Completed application forms for admission should be sent by Registered post to the Registrar, CIEFL, Hyderabad-500007.

The last date for receipt of filled-in application for all courses is **20th March, 1992.**

G. Venkateshwer Rao
Acting REGISTRAR

ANNAMALAI UNIVERSITY

NOTIFICATION No.1/92 (C)

Applications in the prescribed form are invited for ONE post of Professor of Business Administration.

The prescribed form of application and full details regarding essential, general and special qualifications and experience required for the post can be had from the undersigned on requisition accompanied by a Demand Draft for Rs.25/- drawn in favour of the Registrar, Annamalai University, payable at Chidambaram/Annamalainagar.

The last date for receipt of completed application is **16.3.1992.**

Dr.Pr. Karpagaganapathy
REGISTRAR

SALIM ALI CENTRE FOR ORNITHOLOGY AND NATURAL HISTORY (SACON)

Kalampalayam, Coimbatore -641 010

(An Autonomous Research Organization fully funded by the Ministry of Environment and Forests, Government of India)

Advt. No.3.

Invites application for the following posts:

1. PRINCIPAL SCIENTIST (Conservation Biology): One post

Scale of Pay: 4500-150-5700; Age: Below 45 years

Qualification and experience: Ph.D in any branch of Life Sciences, based on a problem related to the conservation of species or habitats. Total 15 years' field research experience. Desirable: Well versed in the modern concepts of Conservation Biology. Working experience in habitat assessment, interpretation of habitat-animal relationships and use of satellite imagery and GIS.

Job requirements: The incumbent should be dynamic, capable of setting up and heading the division of Conservation Biology, and also formulating guiding, coordinating and evaluating research programmes related to conservation of species and habitats. Responsibility also involves giving leadership to multidisciplinary research projects and developing interdivisional programmes and linkages in research with other national and international organizations. Should also be capable of developing and undertaking education and training programmes.

2. SENIOR SCIENTIST (Wetland Ecology): One post

Scale of Pay: 3700-125-4700-150-5000; Age: Below 40 years.

Qualification and experience: Ph.D in any branch of Life Sciences, or Environmental Chemistry, based on a topic related to Wetland Ecology. Total 10 years' research experience. Desirable: Working experience in the studies on wetland ecosystem and pollution. Experience in the field and laboratory techniques required for wetland studies, and well versed in use of various computer softwares.

Job requirements: Survey and monitoring of the wetland ecosystems using satellite imageries and, modeling of wetland ecosystem. The incumbent should be prepared to travel extensively in the country for the collection of data on wetlands.

3. SCIENTIST (**Avian Ecology**): One post

Scale of Pay: 3000-100-3500-125-4500; Age: Below 35 years

Qualification and experience: Ph.D in Zoology/Wildlife Biology, based on work in field ornithology. Total five years' research experience in field ornithology. Desirable: Well versed in field techniques of ecological studies and, analysis of data using various softwares.

Job requirements: Competent to identify birds in the field and to conduct surveys and studies on birds anywhere in India.

4. SCIENTIST (**Terrestrial Ecology**): One post

Scale of Pay: 3000-100-3500-125-4500; Age: Below 35 years

Qualifications and experience: Ph.D in any branch of Life Sciences, based on work in plant or vertebrate field ecology. Total 5 years' field research experience. Desirable: Well versed in the latest techniques of field ecology and, computerization and analysis of data.

Job requirements: Survey and study of animal and plant species and habitat assessment of wildlife anywhere in India.

5. SCIENTIST (**Wetland Ecology**): One post

Scale of Pay: 3000-100-3500-125-4500; Age: Below 35 years

Qualification and experience: Ph.D in any branch of Life Science based on a topic related to wetland ecology, preferably wetland vegetation. Total 5 years' research experience. Desirable: A sound knowledge of wetland flora, experience in collection, identification and preservation of wetland plant species and, interpretation of wetland vegetation.

Job requirements: Survey and study of wetland vegetation anywhere in the country.

6. SCIENTIST (**Conservation Biology**): One post

Scale of Pay: 3000-100-3500-125-4500; Age: Below 35 years

Qualification and experience: Ph.D in any branch of Life Sciences, based on a problem related to conservation of species or habitats. Total 5 years' field research experience. Desirable: A sound knowledge on the modern concepts of Conservation Biology. Working experience in habitat assessment, interpretation of habitat-animal relationships.

Job requirements: Assessment of status of species and habitats; interaction with other disciplines of SACON and other similar national or international organizations and to collect information required for the conservation of species or habitats; preparation of conservation programmes.

Note

1. The pay, allowance etc. are admissible as per Central Government norms. Other benefits include CPF, Medical reimbursement, LTC, etc., as per rules of the SACON.

2. Qualification and experience may be relaxed at the discretion of the SACON.

3. Persons working in Government/Public Sector/Autonomous Bodies should apply through proper channel or produce no objection certificate at the time of interview, failing which they will not be interviewed.

4 Candidates should indicate name and address of three referees in responsible position who can comment on their suitability for the post, failing which their application will be considered incomplete.

5. Application on plain paper with complete biodata and copies of testimonials should reach the Director, Salim Ali Centre for Ornithology and Natural History, Kalampalyam Post, Coimbatore - 641010 with in 20 days of publication of this advertisement. Biodata should be in the following format: 1. Name, 2. Age and Date of Birth, 3. Permanent Address, 4. Present Address, 5. Qualifications with grade obtained in each, 6. Total years of research experience, 7. Positions held with details of pay and responsibilities, 8. Present Position, 9. Fellowships and awards obtained, 10. Number of research papers, short notes, reports and extension papers published, and 11. Any other relevant information. Applications not received in the above format are liable to be rejected.

6. SACON will decide the cut-off point for calling the candidates for interview based on the academic qualification and experience.

7. Salim Ali Centre for Ornithology and Natural History is a new Research Centre being established in memory of the late Dr Salim Ali and is expected to become a Centre of international repute. Only those who are highly motivated, creative and committed to the cause of nature conservation and prepared to put in strenuous work both in the field and the laboratory with bare minimum facilities need apply.

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EMPLOYMENT NOTICE

Dated:- 28-1-1992

Applications are invited for the following teaching posts in the prescribed forms (eight copies) available from the undersigned on payment of Rs.15/- in cash on postal order (payable to the Registrar, South Gujarat University, Surat) along with a self- addressed envelope of 22 cm x 13 cm size with postal stamps worth Rs.5/- affixing there on. Information regarding qualifications and details regarding specializations will be supplied with the application forms. P.R.L. denote Professor, Reader and Lecturer respectively. (S.C.), (S.T.), (B.P.) denote reservation for Scheduled Castes, Scheduled Tribes, Socially and Economically Backward Classes respectively. Candidates belonging to these reserved categories must attach necessary certificate from the competent authorities in Gujarat State. Completed forms must reach the undersigned by **28th February,1992.**

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Waltair
Dt. 4.2.1992

Prof. V. Abraham
DIRECTOR

NOTE: The M.A./M.Com. examinations for Previous and Final Years are scheduled on alternative days in order to complete the examinations within the minimum possible period.

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University News

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Transmission of Values through Higher Education System

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Strategic Planning

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The Survival at Stake

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Experiential Taxonomy

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Why We Are Underdeveloped?

●

Role of Agriculture in Indian Economy

●

Fellowship in Commonwealth Studies

NARENDRA DEVA
UNIVERSITY OF AGRICULTURE & TECHNOLOGY
KUMARGANJ, FAIZABAD - 224 229
COMMON ENTRANCE EXAMINATION, 1992

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3.	B.Sc. (Ag.) (Agriculture Course) of N.D. University of Agri. & Tech., **Faizabad.**		
4.	B.Sc. (H.Sc.) (Home Science Course) of C.S.A. University. of Agri. & Tech., **Kanpur.**	Four Years for Arts Candidates and Three Years for Science Candidates	Passed Intermediate Examination (10 + 2) in Science OR Arts OR any other Examination recognised as equivalent thereto.
5.	B.Sc. (H.Sc.) (Home Science Course) of N.D. University of Agri. & Tech., **Faizabad.**		

Candidates who are appearing at the Intermediate Examination of 1992 may also apply but their admission will be subject to their passing the Intermediate Examination.

Candidates seeking admission should not be above 22 (Twenty two) years of age on 1.7.1992 (First July Nineteen hundred Ninety two). Upper age limit is relaxable by 3 (Three) years in case of S.C./S.T. and B.C. Candidates.

A set of Application Form including Information Bulletin containing inter-alia syllabi and rules, regulations and instructions for the Common Entrance Examination can be had either from the office of the Registrar, N.D. University of Agri. & Tech., Kumaraganj, Faizabad/C.S.A. University of Agri. & Tech., Kanpur OR from the office of the Dean, College of Vety. Sc. & A.H., Mathura on cash payment of Rs. 25/- (Rs. Twenty five only). Candidates desirous of getting the Application Form by post are advised to send to the Registrar, N.D. University of Agri. & Tech., Kumarganj, Faizabad-224 229 :-

A Crossed Bank Draft for Rs. 40/- (Rs. Forty) only issued by the any branch of State Bank of India in favour of the **COMPTROLLER, N.D. UNIVERSITY OF AGRI. & TECH.**, payable at **State Bank of India, N.D.Univ of Agri. & Tech., Campus (Pithla), Faizabad (Code No. 6925). The candidates should clearly mention their postal address at which the Application Form is to be sent.**

Complete Application Form will be received in the Office of the Registrar, N.D. University of Agri. & Tech., Kumarganj, Faizabad, latest by **March 31st , 1992.** Application Form can also be received upto 15th April, 1992 with additional late fee of Rs. 75/- (Rs. Seventy five) only.

The University will not be responsible for any postal delay on the part of the candidates in submitting the Application Forms after the due dates. Incomplete Application Forms OR those received after the due dates shall not be accepted.

S.M. Shamim
REGISTRAR

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Editor :
SUTINDER SINGH

STRATEGIC PLANNING
Its Application to Universities

Lena D'Souza *

Introduction

During the past forty years, scholars of management have contributed many new insights which have found application in the management of educational institutions and non-profit organisations, particularly in areas of finance, operations research, decision making process, leadership concepts, organisational theory and strategic planning.

Strategic Planning is a tool designed largely by business organisations to cope with marketplace threats and opportunities. It is a relatively new development with great potential. A number of authors (Barry 1986, Bryson 1988, Johnsom and Scholes 1988) argue that administrators in non-profit organisations, colleges and universities can introduce it into their institutional lives as a way of improving performance. This type of planning is not the same as mechanical and deterministic long range planning which focuses on the internal environment. Strategic Planning deals with a whole new range of factors which include: the changing external environment with its opportunities for growths;and threats or constraints, as well as strengths and weaknesses within the organisation. According to Keller (1983) it is an attempt to give organisations an antenna to sense the changing environment – it is a management activity designed to help organisations to develop a greater quality by capitalizing on the strengths they already have. It also implies the notion of participatory management developed chiefly by the social psychologists. This notion will be specially significant for universities of the future. Good management is vital for today's colleges and universities. It has been so for decades, but now the profound changes facing higher education no longer allow these institutions to put it off. With strategic planning, universities and colleges can be both more efficient and more effective. Colleges and universities are therefore fortunate to have considerable new knowledge available to them precisely at the moment when they need to overhaul administrative practice. In the USA, in the field of higher education a major managerial transformation is in process. Keller (1983) with more than thirty years of experience in teaching, vividly describes the emerging patterns in higher education management and planning and the reasons for the new patterns. A number of universities that have attempted to apply the latest management wisdom to their institutions report to have been able to sharpen the focus of their academic programmes. Schmidtlein & Milton (1989) describe the diverse approaches colleges and universities might use to anticipate and adapt the opportunities and threats in the changing environment. In five case studies, administrators report the strategic planning process in their institutions and the success in developing effective approaches for identifying and dealing with emerging threats and challenges. Their experiences provide new perspectives on how strategic planning can be accomplished in higher education institutions.

A Few Key Concepts

Concepts related to strategic planning help managers to answer questions such as : Why are we doing? What we are doing? Where do we want to be in the future? What do we need to accomplish? What is the time frame? And how are we going to get there from where we are? These concepts

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**Reader & Head, Dept. of Education Management, SNDT Women's University, Bombay - 400 020.*

are: mission (the why), vision (the where), objectives and goals (the what and the when), the strategy (the how).

A discussion of these concepts and of the process of strategic planning follows.

Developing a Strategic Vision

Strategic planning as a process begins by defining a strategic vision for the institution. This is followed by implementation of decisions which relate the vision to day to day operations.

The vision of an institution has for itself a sense of where it wants to be several years from the present. Without a clear vision of where the institution is trying to go, efforts to progress towards the stated goals and objectives will be half- hearted.

Defining a vision that is inspiring to the faculty, staff, students and external community should be the highest function of the head of the institution. After encouraging adequate discussion within the colleges and universities, the head is responsible for articulating and communicating the vision.

More and more colleges and universities in the USA and Europe are recognising the need to articulate clearly a vision for the future and to specify the means by which the vision can be realised. The vision seeks to develop the optimal relationship between institutional capabilities and values on the one hand and environmental needs and opportunities on the other.

A strategic vision comprises decisions in six major areas— the institutional mission, target audiences, programmes offered, geographic areas to be served, comparative advantages and action steps.

Institutional Mission

(1) It is difficult to discuss questions of strategy without first being clear on what the mission of the institution is.

(2) It is a statement that details the institution's reason for being. For a mission statement; to be useful to the members of the institution – it must answer the question 'why do we exist'? It should make sense to a department or unit of the institution why it exists otherwise it is difficult for those working within it to know whether or not their actions are consistent with what the institution wants. It must spell out the nature, shape and characteristics of the institution. It must include the basic philosophy and values of the institution, the guiding principles for behaviour within the institution; the broad goals that the institution seeks to accomplish. The unique characteristics of the institution places on teaching, research and extension; the institution's role in the wider community. Does that role take the form of active leadership or is it more passive?

The mission should articulate the guiding vision and aspiration of the institution. It therefore needs to be inspiring and it should set forth goals that are worthy, challenging, realistic and appropriate for faculty, staff and students. It must be specific and communicate guidelines for behaviour of all members of the institution.

Target Audience

Planners must decide on the optimal size of the college/university (financially, physically, educationally). The approximate number of students to be admitted to each course and the population should be identified.

The institution should conduct research to find out why students do or do not enrol for courses offered in order to assess student needs which are currently being served and which are not. It must also identify the intellectual interests of students. These findings will help planners to decide on the relevant courses/services to be offered.

Courses/Services Offered

In connection with courses/services offered, two major issues must be dealt with – specification of the courses/services offered and the type of activities the institution is engaged in; and the determination of the priorities for these. Both internal and external faculty must be considered while making these decisions. Internally the capabilities of the faculty, availability of space and of library resources, the quality and quantity of equipment to support various programmes must be taken into account. Externally, the demand by students, employment demands, resources available in the surrounding area, competing programmes at other institutions must be assessed.

Comparative Advantages

This refers to the question, in what way is the institution better than another institution engaged in similar activities. It is competition in the healthiest sense when institutions develop unique positions within the wider higher education system through quality of courses, co-curricular, extra-curricular activities, services to students – in other words a broader range of education

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offered by the institution.

Action Steps

Once the institution has articulated its mission, its target group, the range of courses/services to be offered and its comparative advantages, the final set of decisions is the identification of the key objectives and action steps needed to move a college/university from the existing to the desired position. This is the implementation stage which relates vision to day to day operations, as such action steps or operational decisions channel activities based on the vision, human resources available, financial resources, physical resources, student enrolment, oragnisational structure, climate and image of the institution.

Once the strategic vision and operational palns are laid down then each academic and administrative unit on the campus devises its own strategic profile for the future, in keeping with the comprehensive plan of the institution. Once the initial, conscious effort at strategic planning process is laid down, it should become an ongoing process.

Information Essential For Strategic Planning Decisions

The strategic planning process discussed above must be supported by relevant information. This information is through a SWOT (strengths, weaknesses, oppositions, threats) analyses exercise which comprises appraisal of the institution (internal strengths and weaknesses) and environmental scanning (external opportunities and threats). A common instrument for such an analysis is a position paper. This exercise should be undertaken by a group of members of the institution representing various levels from among academics and administrators.

Internal Appraisal

This appraisal comprises an assessment of internal strategies and weaknesses in areas such as the human resources, financial resources, quantity and quality of facilities, courses offered and activities of the institution, the special characteristics and the climate of the institution. The purpose of the assessment is to ascertain specifically, what the institution can do as well as what it cannot do. The implication of these findings to strategic planning decisions should also be identified. The attempt should be to capitalize on the existing strategies to correct the weaknesses discovered in the analyses.

External Environment Scanning

Opportunities, threats and constraints in the external environment should be identified. Among the factors in the external environment would be the economic, social, political, technological conditions and changes. To a certain extent these will affect all colleges and universities. At the same time there will be differences in how different institutions experience these influences. It is essential that analyses be geared towards resolving issues related to the mission statement, target audience, courses offered, comparative advantage and action steps and to identify the specific ramifications of an external influence for strategic decision making.

A crucial step in the SWOT analyses exercise is to match the findings. For example, the external environment analysis may reveal significant opportunities for which the capabilities within the institutions are inadequate or there may also be strengths within the institution that no longer match external trends. The matching process will help in deciding the action steps necessary for formulating a strategic vision.

Benefits of Strategic Planning

According to Shirley (1988) administrators in higher education in the USA who have gone through the strategic planning process suggest five primary benefits.

A clearly articulated strategic vision is inspiring to organisational members. It presents appropriate challenges. It wins a commitment from both internal as well as external constituents to accomplish shared goals.

The second benefit is the increase in external support that normally follows a clear articulation of vision. Benefactors do seek assurance that their donations are being used wisely. It has been found that an institution which demonstrates wise use of available resources and a clear direction for the future, tends to attract increased financial contributions from individuals, foundations and agencies that grant donations.

The third benefit is the increased certainty it brings to the life of the institution as a whole.

Fourthly it provides a context for allocation and reallocation of funds to the various units. Linking budgeting with planning can reduce the role of politics and personal influence in the budgetary process.

Last but not the least, it improves the institution's image. With a reputation for progressive thinking and reputation, the institution will attract students with good potential, good faculty as well as benefactors.

Conclusion

Strategic Planning is a process that recognises and emphasizes the fact that a college or university is a

(Contd. on page 12)

TRANSMISSION OF VALUES THROUGH HIGHER EDUCATION SYSTEM

J.N. Kapur*

Some Basic Questions that have to be Answered

- What are the values which we want higher education system (HES) to transmit?
- Is the present higher education system transmitting these values? If not, what values is it transmitting?
- Is the structure of the present HES conducive to the transmission of the right values? Do we have to change this structure if we want it to transmit the right set of values? If so, how has this to be done?
- Is the Western education system transmitting the right set of values? If so, can we adopt it or adapt it?
- Do the present economic, social and political systems permit the transmission of the right set of values? If not, how should these be changed?
- What are the various methods available for transmitting these values?
- Shall we teach values or shall we let the students develop their own value systems and concentrate on creating a climate in which they can develop the right set of values?
- Are the values prevalent in Indian society today the right set of values and should these be transmitted? Were the values of the previous generation the right set of values? Are the values prevalent in the Western society the right set of values?
- Are there some eternal values which are independent of time and space? What are these values? What are the changing values? What are those which change with time and what are those which change from country to country?
- How are the values related to the aim of life or the philosophy of life one has?
- What harm is the present 'erosion of values' causing society? What harm has it done to physical, moral, ethical and economic health of the nation?
- What can an individual teacher or a group of teachers do to reverse the alleged erosion of values?

Different Types of Values

Spiritual Values : These are concerned with man himself, with he relation of man with God, with bhakti, mokhsa, nirvana etc. In fact these values are basic to Indian Philosophy and are characteristic of Indian Culture as against Greek Culture which is mainly concerned with man as a social being.

Ethical and Moral Values: These are concerned with impartiality, fairness, integrity, justice, love, tolerance, mutual respect, humanism, ahimsa etc.

Intellectual Values : These are concerned with deep intellectual enquiries about the external and the internal world and a relentless pursuit of truth at all costs.

Social, Political, Economic and Business Values : These are concerned with democracy, socialism, secularism, free market etc.

Physical Values: These are concerned with physical fitness, health, sports etc.

The values which an individual accepts depend very much on the level of loyalty which is most important to him. He can be loyal to himself only or to his family or to his caste or religion or region only or to his nation or to humanity as a whole. A person who can reconcile all these loyalties harmoniously or who sees to it that his smaller loyalties at least do no harm to his larger loyalties, will be in a position to develop the right set of values.

Ethics and Norms of Science

My special interest has been in the ethical values in science education and research. I expressed my views in eighth G.P. Chatterjee Award lecture[2] which I gave at the Indian Science Congress conference in 1988. I expressed similar values in the keynote address I gave at a symposium on Excellence in Science[4] organised by the Society for Scientific Values in 1989. In this lecture I highlighted the unethical and unscientific practices involved in conduct of science practicals in schools and colleges and in their examinations, in the appointment of examiners and conduct of Ph.D. theses examinations and in the appointments and promotions of scientists.[5] I also prepared a ten-point code of conduct for scientists and a similar code for science students[4]. Reviewing this contribution, a reviewer in the British Medical Journal

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**Jawaharlal Nehru University and Mathematical Sciences Trust Society, C-766, New Friends Colony, New Delhi - 110 065.*

observed:

"In the second session, Dr. J.N. Kapur analysed, without pulling punches, the root causes of unscientific practices. His observations should be made compulsory reading to all those concerned with the teaching of science in Indian schools, colleges and universities. Were the subject not grim, some of the points he made would provoke guffaws".

"There is a feeling that the best way to prolong the life of an equipment is not to allow the students to use it." "In our society, there is a general tendency to help individuals at the cost of the system. The examiners tend to be generous with the marks because they are anxious to help the 'poor' students".

The Society for Scientific Values in its first circular[2] stated that:

"Our scientific contributions have not been commensurate with the investments. In fact hardly any discoveries, innovations and techniques have originated in the country in recent decades. One main reason is the lack of healthy scientific environment which has been throttling the creative potential of our scientists and technocrats. It is necessary to develop a healthy scientific environment free from prejudices, bureaucratic formalism, dishonesty, propagation of unsubstantiated, research claims, suppression of dissent, sycophancy, political manipulation and manouvering etc."

A survey of the attitudes of science Ph.D scholars and their supervisors[2] conducted by Prof. Rais Ahmed also revealed that there is a minimal concern about maintaining standards. The major concern appears to be to get a Ph.D. degree somehow and to publish papers without worrying about the quality of the papers.

I had drawn the conclusion that the morale of our science students, Ph.D. scholars, teachers and research workers is very low and high scientific ambitions are conspicuous by their absence. This is due to the favouritism, nepotism and unfairness in selection and promotion and a general feeling, justified or not, that it is sychophancy and not merit that matters in the system. The result is that in spite of having the third largest scientific manpower in the world, in spite of having successive prime ministers who have gone out of their way to support science and technology, our scientific output has not been commensurate with the inputs in terms of physical and human resources. The low morale of our scientists is responsible for 75% of loss of our scientific and technological potential and it causes us loss of a few thousand crores of rupees per year. We have not become self-reliant either in industry or in high technology or in defence preparedness.

I have discussed all these problems in detail in many articles[1-14] in a recent lecture[15], I gave to Pusa Agriculture Research Scientists Society and in my book 'Towards Excellence in Higher Education"[16].

Ethics and Norms in other Intellectual Pursuits

Every genuine intellectual pursuit is a search for truth which is a noble goal and in the pursuit of a noble goal, only noble means should be used and no others, otherwise truth is likely to evade us.

In all intellectual pursuits, high morale, courage and faith are essential. An adventurer who wants to climb a high mountain, but whose morale is low and who has little faith in himself, will climb upto a certain height and as soon as he meets with some resistance will climb down without achieving his goal. In fact, he may not have even the courage to set his goals very high in the first instance.

Similarly an intellectual adventurer doing research in any field in arts, science or humanities, with low morale, courage and faith will set his goals very low, will be satisfied with mediocre results and will quit research at the earliest opportunity. Some of our research workers drop out of research after just getting the Ph.D. degree, some others after publishing a few papers, many others after getting a readership or professorship. The dropout rates at every stage are high and the reason is low mroale, lack of ambition in research and above all a lack of faith that the system will reward only genuine high quality research and not sychophancy or political manouvering. No worthwhile research can come out of such half-hearted efforts.

In the same way, a teacher who does not have his heart in teaching, who considers teaching as a load and who is always fighting for decreasing this load is likely to remain an indifferent teacher and is not likely to be committed, dedicated and exacting. Excellence in teaching can result when teachers and society attach a high value to excellence in teaching.

Transmission of Values through Higher Education System

The higher education system today in India, is dominated by an external examination system, which encourages students to commit some limited number of facts to memory for the examination day. It does not let them develop powers of understanding, comprehension, analysis and synthesis. It does not encourage them to think for themselves.

Suppose we introduce a compulsory course on

'Values' for all students in the system. A large number of made-easy books will at once appear, the questions will be standardised and committed to memory by students, but there will be no intellectual or emotional transmission of values in the process.

In fact, the situation will become a farce if persons who teach this course openly violate the values which they teach.

The higher education system can transmit values only by first adopting fully all the values it tries to transmit, in its own working. If we want to teach values of honesty, courage, faith, fairness, impartiality, justice, tolerance, discipline, dedication, high character, national integration, democracy, secularism, love of knowledge, intellectual curiosity, HES itself should be a system in which there is no dishonesty, there is all fairplay and justice, no corruption, no nepotism, no casteism, no regionalism, no intolerance, no discouragement to dissent, no throttling of creativity and originality and so on.

There may be some misgivings whether the present HES can be restructured to meet these requirements in the present environment of corruption, nepotism, favouritism and political interference. There is some substance in the argument, but at the same time it is also true that there are so many loopholes in the system that the system can be easily exploited by vested interests. There is no inbuilt accountability in the system for either students, teachers, karamcharies, educational administrators and politicians. Every group exploits the system to its advantage and when the system becomes lifeless, the system is blamed for it and if that is not enough, poor Macaulay is blamed for it. Everybody is a bitter critic of the system and everybody is a great exploiter of the system. In fact everybody seems to feel good by criticizing the system, not realising that it is his exploitation of the system which has made the system deserve the criticism.

The system can however be restructured to deliver the goods. It can be made consistent with the value system we may like to transmit.

The Western Educational System

Whatever be its other weaknesses, in the Western Educational System (WES), every student has to work hard and regularly throughout the year. Every teacher has to put in his or her best for teaching and research and no teacher can afford to relax even for a day. No educational administrator can even dream of misusing his powers for personal benefit. All his energy is devoted to make his institute a centre for excellence. The goals set by every research worker are high and very often the sky is the limit.

How does it happen there? The individuals there have the same weaknesses as we have and are as prone to exploit weaknesses in the system as we are, but nobody dares to take things easy.

Students have to pay heavily for their education and quite often they have to work in the evenings or during summer vacations to earn to pay for the costly education. They also take bank loans which they know will never be waived off. In some countries, graduates have to pay special taxes when they start earning to pay the higher education they received at tax payers' expense earlier. As such students want to make use of every minute of their time. The education they receive is of good quality and is not cheap. The students also keep the teachers on their toes. There students teaching reaction surveys are honest and brutally frank and teachers who neglect their teaching know that students will not spare them, their colleagues will look down upon them and administrators will not give them promotions. Teachers have to be impartial and fair because they grade the students in an open system, in which the students can challenge the marks given, can compare the marks given to them with marks given to other students and can even appeal if they are not satisfied.

Teachers and administrators know that government grants and support by industries will depend on the reputation and performance and the government will not give a blank cheque to the university. There is a constant monitoring of all departments, universities and research institutes by peers and accreditation agencies.

It is pressure of public opinion rather than fear of punishment that makes individuals follow the right set of values.

It is fully realised that they live in a highly competitive world and a nation with a weak higher education system cannot survive in this world. Resources are available generously for higher education, but not a pie is allowed to be wasted.

The honesty and integrity of the HES influences the honesty and integrity in the whole social, political and economic system. Though there is some corruption at the higher political level, it does not affect the educational system at all because of its great internal strength and its openness.

Thus the values of fairness and justice, tolerance and goodwill, hard work and dedication are transmitted automatically by the WES.

I have advocated the adoption of the Western

Higher Education and Research System as a whole with all its checks and counterchecks. The partial adoption of the system is worse than useless. Thus some universities adopted internal assessment system, but without the other components, like student reaction surveys, teacher keeping records of assignments and quizzes, without making plans for every lecture in advance, without students having the right to see everybody's answer book and without allowing for external monitoring.

This is similar to our adoption of the democratic system of one man one vote, but then allowing election to be fought on caste and communal lines. We did not insist on internal democracy in political parties, we did not insist on open auditing of their accounts, we did not allow open political donations, but we allowed enough under-the-table donations and the generation of enough black money in the process. We did not go in for a free TV or radio. By adopting the democratic system only partially, we almost nullified it and alienated the voters themselves from the system.

The Role of Teachers in Transmission of Values

The restructuring of the HES for making it a fit instrument for transmission of the right ethical, moral, spiritual and intellectual values can only be distant dream and an ideal worth working for, because of the following reasons:

- the vast vested interests of university bureaucracy, made-easy-books writers and the examiners in the present external examination system,
- the vast network of teachers engaged in private tuitions and coaching institutions,
- the vested interests of institutions charging high capitation fees,
- the vested interests of politicians who control managements of thousands of colleges, who sometimes make money and use their influence to recruit workers for their political activities,
- the vested interests of students who get degrees without working hard for these,
- the vested interests of teachers who enjoy perfect security of service and guaranteed salaries irrespective of what work they do, and
- the lack of vision of politicians who are prepared to mortgage the future of the country for their immediate narrow political interests.

Under these conditions, what can individual teachers do?

- they can adopt and follow the code of conduct given below,
- they can organise groups of like-minded teachers who can act as watchdogs for the observance of these values,
- they can work for the restructuring of the system in the right direction,
- they can practise the values they preach and try to become role models which the students can try to emulate,
- they can be perfectly fair in teaching, evaluation and research and be prepared to expose those who blatantly violate the ethics and norms of the teaching profession, and
- they can design education, political, social, economic systems which will be fool-proof against unethical and corrupt practices and in which everybody will have to be honest.

A Proposed Code of Conduct for Teachers

1. I shall be proud to be a teacher[9]. I shall consider teaching as a noble profession and as a member of this profession, I shall do only deeds worthy of this noble profession.
2. I shall be conscious that my actions will be watched critically by my students and as such I shall always try to set a good example for them.
3. I shall prepare my lectures with the greatest care and make my lectures as clear and as lucid as possible.
4. I shall be a friend, philosopher and guide to all my students and I shall always be available to them for help and guidance. I shall take genuine interest in their welfare.
5. I shall always motivate my students to put in their best, to read standard books and to enjoy learning.
6. I shall encourage my students to make full use of the library.
7. I shall love my subject and motivate my students to love it too.
8. I shall not consider teaching as a burden but as a pleasure.
9. If I miss any class for any reason, I shall try to take another class to make up for the loss the students may have suffered.
10. Even if I have grudges against my management or society, I shall not let these affect my teaching.
11. I shall be always innovative, use the latest textbooks and the latest pedagogic techniques for teaching.
12. I shall not only cover the courses fully, but encourage the good students to read far beyond the courses.

13. While I will always fight for the right of teachers, I shall also fight to see that teachers also do their duty towards the students and society.
14. I shall engage in scholarly activities and research and shall join professional societies for professional growth. My scholarship and research will be aimed at making me a better teacher.
15. I shall always be ready to learn from great teachers, great and good scholars and I shall choose my role models carefully. I shall never follow those who cut classes or are not serious about their teaching and research and who just criticize everyone without being conscious of what they themselves are doing.
16. I shall never justify any shortcomings on my part as a teacher or as a researcher or as an ordinary citizen, in terms of the prevailing atmosphere of corruption, nepotism and lack of sincerity.
17. I shall always try to improve the image of the teaching profession in the eyes of the student and public by all my words and deeds.
18. I shall work against exploitation of the education system by vested interests of all types and shall try to explain to the various parties the harm they are doing to the system by misusing it.
19. I shall always be fair and impartial in all my activities. If I am given responsibilities for any appointment, selection in promotion, I shall discharge this with the greatest fairness.
20. I shall try to become a better and better teacher, a better and better scholar and a better and better researcher everyday. I shall try to be a genuine creative-teacher scholar.

Some Questions Answered

Q. Don't you think that under the present conditions people with values suffer and persons who compromise with present day realities prosper?

A. It depends on what you mean by prosperity. If a man with uneasy conscience and living a life of constant conflict can be said to prosper, they do. However there is no reason why persons following the above code should suffer in any sense. Even if they agree to suffer a little, they will gain in the love and affection of the colleagues and students.

Q. How can you expect teachers to be upright and honest when vice-chancellors, deans and principals are not?

A. I will like you to read the book 'Vice-Chancellors-remember'[10] giving the reminiscences of 25 distinguished vice-chancellors and to draw inspiration from their struggle to uphold values. I will also like you to read 'On Being a Teacher'[9] to see the role teachers can play. In any case one wrong does not make another wrong right. I believe if 10,000 teachers decide to follow the code of conduct honestly and strictly, they will be able to transform the educational system and even the political, social and economic system effectively. Moreover I want teachers to work for a system in which corruption and nepotism become impossible and this can be done.

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To Our Readers

Knowledgeable and perceptive as they are, our contributors must not necessarily be allowed to have the last word. It is for you, the readers, to join issues with them. Our columns are as much open to you as to our contributors. Your communications should, however, be brief and to the point.

The Survival at Stake
A Look at Higher Education

Mustufa Khan*

In a country of millions of learners and teachers we must learn to nurture a sense of a comprehensive spirit of a joint endeavour to build our nation. The laity not only should look up to us but should emulate us. For, after all, are we not engaged in the noble task of educating the nation? But the desirable pervasive spirit of our mutual work seems to elude most of us. Somehow or other, we seem to follow the regimen, of other departments of the government, of filling the dotted lines with jejune facts and figures in order to sponge on what we have to utilise before the expiry of the last day of the fiscal year.

Education cannot and must not be amenable to fiscal considerations howsoever important they might be. A cost-effective approach to it can hardly close all the loopholes, be it a Benthamite approach or of Adam Smith. Most-carefully-thought-out plans of education have been undone by the snags of mercenary considerations. First by the bureaucrats themselves and then by the 'dispensers' of education in the guise of chairpersons of educational societies in tandem with their heads of colleges and institutes. Inured to them is the government 'washerman' who 'launders' funds and grants to them. In this corporate racket where do we place the accountability of the teachers? Many a time the teacher is dictated by the head clerk to fill the dotted lines as the higher-ups desire it. His helplessness precludes the alternatives he might have had. His much flaunted accountability is compromised notwithstanding his soul's disgust at the whole matter.

Caught in this quagmire of monetary manipulation how best can the teacher extricate himself is what concerns most of us. Or it should. Accountability cannot be measured by monetary layout nor can responsibility created in students by equating the layout. Our present educational set up already has the sharing of the burden. For his oral test the student pays from his pocket and the teacher conducting the viva voce claims it from him and his travelling allowance from the government or the university. For experimentation in natural sciences there are expenses brone by the students irrespective of their financial condition. There are teachers who give out more than the meagre return that they get on the first of every month. And there are those amongst us whom the first of the new month does not bring anything. Several such first-of-the-month pass before they see even half of what they should get.

Education is mutually beneficial to the teacher and the learner. The collateral advantages of the educational process that accumulate in the teacher can stretch far beyond the arithmetical figures. Indeed, there are never more than four or five figures in every month. In contrast, some other sectors of life have made such 'advances' that the increase in earning is astronomical, so much so that the teacher's pay at times looks a pittance.

The economic viability of a teaching position either in a university or college is dependent on a number of circumstances. These circumstances are always changing. They keep the teachers on tenter hooks. Therefore to talk of security of pay is something that is not fully justifiable in so far as it is relative concept. And, to say that whatever security of pay the teacher has leads to erosion of accountability is untenable since there are cases, not too infrequent, of those who have given invaluable service through teaching. In their life and after, they have remained lighthouses steering us clear on the right way.

It is the infiltration of the degree-holder, sans natural inclination for teaching and self-motivation, into the institutes of learning that causes deterioration and disorientation of the educational process and the teacher respectively. For without the former the latter would be well nigh impossible. And since when have we begun to speak of the deterioration of education without being conscious of the coeval disorientation of the teacher himself? In what do they differ? How does an awareness of the difference help us to overcome the plight of the teacher?

The harsh reality of today gives us yet another chance to learn and mend. To know and yet refuse to mend is sure sign of wilful obduracy. Still, not to make any endeavours to know, or deliberately close eyes to what is so compellingly demanding a scrutiny, is worse. It is not necessary to name names and give figures to prove the malaise.

(Contd. on page 12)

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EXPERIENTIAL TAXONOMY
Its Curriculum Design, Learning and Teaching Strategies

Mamota Das*

Introduction

The Experiential Taxonomy is a new approach to teaching and learning which needs to be shared with readers. The cognitive taxonomy by Bloom (1956), Englehart, Hill (1968); Affective Taxonomy of Krathwohl, Bloom, Masian (1968) and Psychomotor Taxonomies of Simpson (1966), Harrow (1972) were used by Planners and teachers. These taxonomies do not address the whole of human experience. Each deals with only a particular aspect of the total interaction with an experience. A need was felt for a gestalt taxonomy to provide a framework for understanding, planning and evaluating the meaning of a total experience. This gave birth to Experiential Taxonomy : A new approach to teaching and learning by N.W. Steinaken and R.M. Bell (New York, Academic Press, 1979). This new approach required to be tested and researched in the ensuing years as an effective tool for teacher training, for teacher self-evaluation and for curriculum development.

Meaning

Experiential means an experience which is an actual "living through an event or events". "The living through" of an experience involves the total personality.

I. CATEGORIES OF THE EXPERIENTIAL TAXONOMY

1.0 **Exposure:** Consciousness of an experience. This involves two levels of exposure and a readiness for further experience.

1.1 *Sensory*: Through various sensory stimuli one is exposed to the possibility of an experience.

1.2 *Response*: Peripheral mental reaction to sensory stimuli. At this point, one rejects or accepts further interaction with the experience.

1.3 *Readiness*: At this level one has accepted the experience and anticipates participation in it.

2.0 **Participation**

The decision to become physically a part of an experience. There are two levels of interaction within this category.

2.1 *Representation:* Reproducing, mentally and/or physically, an existing mental image of the experience, that is through visualizing, role playing, or dramatic play. This can be done in two ways.

2.1.1. *Covertly*: as a private, personal "Walk through" rehearsal.

2.1.2. *Overtly:* in a small or large group or interaction, that is, in the classroom or playground.

2.2 *Modification*: With the input of past personal activities, the experience develops and grows. As there is a personal input in the participation, one moves from role player to active participant.

3.0 **Identification:** The coming together of the learner and the idea (objective) in an emotional and intellectual context for the achievement of the objective.

3.1. *Reinforcement*: As the experience is modified and repeated, it is reinforced through a decision to identify with the experience.

3.2. *Emotional:* The participant becomes emotionally identified with the experience. It becomes "my experience".

3.3. *Personal*: The participant moves from an emotional identification to an intellectual commitment that involves a rational decision to identify.

3.4. *Sharing*: Once the process of identification is accomplished, the participant begins to share the experience as an important factor in his life. This kind of positive sharing continues into and through category 4.0 (Internalization).

4.0. **Internalization:** The participant moves from identification to internalization, when the experience begins to affect the life style of the participant. There are two levels in this category.

4.1. *Expansion*: The experience enlarges into many aspects of the participant's life, changing attitudes and activities. When these changes become more than temporary, the participant moves to the next category.

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4.2. *Intrinsic:* The experience characterizes the participant's life style more consistently than during the expansion level.

5.0. **Dissemination:** The experience moves beyond internalization to the dissemination of the experience. It goes beyond the positive sharing that began at level 3.0 and involves two levels of activity.

5.1. *Informational*: The participant informs others about the experience and seeks to stimulate others to have an equivalent experience through descriptive and personalized sharing.

5.2. *Homiletic*: The participant sees the experience as imperative for others.

II. THE EXPERIENTIAL TAXONOMIC SEQUENCE

1.0	**Exposure**	Example
1.1	*Sensory*	I hear a poem
1.2.	*Response*	I enjoy it.
1.3.	*Readiness*	I want to hear the poem again.
2.0	**Participation**	Example
2.1.	*Representation*	I attempt to reproduce the poem.
2.2.	*Modification*	I add my own emphasis or style.
3.0.	**Identification**	Example
3.1.	*Reinforcement*	I repeat the poem and style often.
3.2.	*Emotional*	It is now one of 'my'poems.
3.3.	*Personal*	I prefer my version.
3.4.	*Sharing*	I make use of it.
4.0.	**Internalization**	Example
4.1.	*Expansion*	I find opportunity to use it.
4.2.	*Intrinsic*	The words have special meaning to me, may not have for others.
5.0.	**Dissemination**	Example
5.1.	*Informational*	I provide opportunities for others to use and experience 'my' version.
5.2.	*Homiletic*	I feel and act as though others must feel as I do about my version.

III. A STEP BY STEP PLAN FOR TOTAL EXPERIENCE – DESIGN OF CURRICULUM DEVELOPMENT :

I. Developing a rationale and goals for the unit.

II. Delineating major generalizations and concepts implicit within the goal.

III. Listing unit objectives sequentially and in behavioural terms.

IV. Identifying pre-requisite learner skills needed initially and as the unit develops.

V. Placing activities for objective achievement in sequential order.

VI. Keying activities of the experiential taxonomy.

VII. Identifying learning principles, pertinent to each objective.

VIII. Listing of expected learner behaviour.

IX. Listing appropriate taxonomy strategies for each activity.

X. Listing evaluation and assessment techniques.

XI. Citing necessary resources for activity and objective achievement.

XII. Keying activities to taxonomic levels of creativity, of critical theory and of problem solving.

XIII. Finalizing the curriculum package.

IV.THE LEARNER BEHAVIOUR IN EXPERIENTIAL TAXONOMY

Exposure- Seeing, hearing, smelling, tasting, touching noticing, reacting and recognizing.

Participation - Observing, discussing, exploring, assessing, visualizing, directing, reading, estimating, manipulating, ordering, collecting, modelling, defining, listening.

Identification- Associating, classifying or categorizing, explaining, experimenting, mapping, estimating, hypothesising, interpreting, investigating, writing or drawing, applying, charting, reading or observing for information.

Internalization - Analysing (deducing, inferring), summarizing, generalizing, comparing or contrasting, inquiring, in-depth probing, transferring.

Dissemination - Communicating, demonstrating, presenting, motivating.

V. LEARNING PRINCIPLES OF EXPERIENTIAL TAXONOMY

Exposure - (a) Extrinsic motivation, (b) Focusing, (c) Anxiety level.

Participation - (a) Initial guidance, (b) Meaning exploration (c) Chance for success.

Identification - (a) Personal interaction, (b) Knowledge of results, (c) Reinforcement.

Internalization -(a) Over learning, (b) Intrinsic transfer, (c) Differential input.

Dissemination - (a) Extrinsic transfer, (b) Reward,

(c) Intrinsic motivation.

VI.TEACHING STRATEGIES OF EXPERIENTIAL TAXONOMY

1. **Exposure** - (a) Incentive conditioning, (b) Data presentation (c) Demonstration, (d) Directed observation, (e) Data exploration.
2. **Participation** - (a) Modelling - recall, (b) Expanding data-bases, (c) Dramatic play, (d) Manipulative and tactical activities, (e) Ordering.
3. **Identification** - (a) Field activities, (b) Using data, (c) Discussion - conferencing interaction, (d) Hypothesising, (e) Testing.
4. **Internalization** - (a) Skill reinforcement, (b) Re-creation, (c) Role play - simulation, (d) Comparative - constrastive analysis, (e) Summarization.
5. **Dissemination** - (a) Reporting, (b) Oral presentation, (c) Dramatization, (d) Group dynamics, (e) Seminar

VII.THE ROLE MODEL OF THE LEARNER AND TEACHER

Taxonomic Level	**Learner**	**Teacher**
Exposure	attender	motivator
Participation	explorer	catalyst
Identification	experimenter	moderator
Internalization	extender	sustainer
Dissemination	influencer	critiquor

Conclusion

The experiential taxonomy involves investments of the self of the learner leading to self satisfaction and intrinsic motivation.

Strategic Planning

Its Application to Universities

(Contd. from page 3)

system and that faculty, students, academic administrators must all work together in harmony sharing the available facilities and research to achieve institutional goals. With good leadership, discipline, determination and courage, strategic planning can be a useful tool for colleges and universities for shaping their future in a challenging environment. Environmental opportunities and threats can work as potential incentives for strategic action. Hopefully, the framework for strategic formulation presented in this article will provide an impetus for executives of colleges and universities to develop a comprehensive plan for their universities.

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The Survival at Stake

A Look at Higher Education

(Contd. from page 9)

Deterioration of education is more than the process of changing education to suit parochial considerations and thereby encouraging inbreeding. It is also not merely substandardization of what we teach. It is the loss of veneration of what once inspired us to search it in the far nooks and corners of the world, in hunger and deprivation and privation. In other words, it is the fervour of mind and body to pursue awareness of the unknown. Knowing alone does not rest the soul unless what is known is also made known to others. That is, therefore, a self sustaining life long pursuit. It is heuristic as well as enlightening.

The other day I was very much amazed by a senior teacher's recounting of his experience at a refresher course he had just attended. He found that half of the resource persons, the so called teachers of teachers, did not prepare what they had to teach. Some of them were enlisted on dubious grounds. They simply failed to deliver the goods although they were invited from the length and breadth of the country and even from the overseas. If those who avowedly want to orient teachers to better teaching are so disoriented then one can guess about the disorientation of the regular teachers.

They are derailed from their path. Sometimes it is the lure of the lucre. Sometimes it is sheer lethargy. Sometimes it is disgust. Sometimes it is a surfeit of repetition. These are all dangers that threaten the teacher. The way out of this imbroglio cannot be just a reformed utilitarian approach. There should be a much greater reform in our outlook to education. Somewhere someone has to recreate the dedication and the missionary zeal. Someone like Mahatma Phule must enkindle the lamp that dispels the dark but more than that, it removes the social nightmare of our existence together.

Why We Are Underdeveloped?

Dr. Sarup Singh, Governor of Gujarat, delivered the Convocation Address at the Forty-Second Annual Convocation of the Panjab University recently. He observed, "....unless we feel committed to the profession and are constantly engaged in improving ourselves both as teachers and as scholars, we will never grow and never be able to excel. Whatever our training and however distinguished our record in India or abroad, if we do not feel sufficiently committed to the work that we are doing, the quality of our contribution would decline. Soon our capacity for work would also decline. This is a common phenomenon not only in India but in most under-developed countries. This indeed explains why we are under-developed". Excerpts

For most of you perhaps the University located at Chandigarh is a new University established in 1947 but for me it is a continuation of the old Panjab University which was established in 1882. Delhi University, of course, did not exist in those days and before it was established in 1922, the four colleges which then functioned in the city of Delhi, were affiliated to Panjab University. When I joined a College in Delhi in 1934, almost every one in Delhi looked up to Panjab University and, for students like me, Panjab University was a sort of mother university.

I hope I am not wrong in assuming that your University carries with it the history and the traditions of the old Panjab University. This mixing of the old and the new, the traditional and the modern, makes your University a unique University. Indeed, it is your real strength. It is important that every institution should be conscious of both modernity and tradition.

In a country like ours more especially, one of the main functions of education is to promote this double awareness. We need to appreciate and exploit the new opportunities that science and technology throw up almost every day but at the same time we should not lose sight of the older human and moral values that this country has always cherished. Your University has performed this function of education admirably and despite all the hectic happenings in the country, I look upon this University as one of the 10 leading Universities of the country.

To be one of the 10 leading Universities at a time when we have almost 150 Universities in the country is no mean achievement, more especially in view of the difficult times you have had. This is a tribute both to your teachers and students. I must add that it is also a tribute to some of the builders of this University. It pleases my heart when I am told that this University "has been consciously attracting best minds on its faculty, ignoring all parochial considerations." Unfortunately not all Universities in the country can make this claim. Hence we see in many Universities a decline in academic standards. We as academics should ask ourselves why that is happening. After all this is the most basic question that higher education is facing today. And yet it is not an easy question to answer. The whole thing is linked up with a number of other factors including what happens in the social, economic and political sphere. But as an old University teacher I find it difficult to accept the position that our Universities cannot do better. Surely they can. My experience is that our capacity for achievement is tremendous. Only that we fail to exploit it.

Let us as academics ask ourselves whether each one of us is performing as well as he or she can. It is a well recognised fact in our academic life that an academic while working in a foreign University performs much better than when he or she comes back. Why is that so? Is it only facilities which are less satisfactory here than elsewhere or is there some other factor also which is at work? The question is worth asking.

In terms of facilities, this University can easily be described as one of the best in the country. There is hardly anything lacking here. You have a beautiful campus which is not only well built and well designed but is also exceptionally well provided with all those facilities which ought to be available in a University. In fact, I can think of several Universities in other countries which, in terms of outlay and equipment, do not compare all that favourably with this University. And yet they are performing better.

Facilities do, of course, matter and matter quite a lot. But what matters even more decisively is the human being who makes use of these facilities. I am told that Panjab University was perhaps the first University in the country to have provided office space to each individual teacher. That has been so for about three decades. On occasions there has been pressure on accommodation and more than one person has had to share the same accommodation. But the principle that an academic is entitled to some space for himself in his place of work was recognised first of all in this campus. I do not know what impact this facility has made on the performance of the teachers, on the quality of their teaching and research. But I have some experience of Delhi University. It was only a few years ago that the Delhi University was able to provide a room to each of its teachers in the Department of English in the University. I cannot claim that it has made the slightest difference to the performance of teachers.

Now the point that I am trying to make is that unless we feel committed to the profession and are constantly engaged in improving ourselves both as teachers and as scholars, we will never grow and never be able to excel. Whatever our training and however distinguished our record in India or abroad, if we do not feel sufficiently committed to the work that we are doing, the quality of our contribution would decline. Soon our capacity for work would also decline. This is a common phenomenon not only in India but in most under-developed countries. This indeed explains why we are under-developed.

In our case another factor has also intervened which has weakened our system. Educational expansion during the last four decades has been so rapid and so indiscriminate that we have had to give academic recognition by way of readerships and professorships even when the individuals were not exactly ready for such recognition or lacked the basic expertise, sometimes even competence of the required degree. There were jobs to be filled up. Those who were considered for them did not answer the description of requirements adequately. But, looked at another way, we tried to select the best person out of the 5 or 10 persons that were under consideration. In more cases than otherwise, I humbly submit that we acted rashly. We might have been fair in selecting the best individual available but then what we should not have overlooked is the fact that knowledge is universal. The standards that prevail elsewhere cannot be disregarded except at our peril. To have done so has brought us to a situation where we have a large number of persons in the profession who have bee over-assessed and over-rated. What is more worrisome, they now sit in judgement on others who compete for new jobs. Since their selection was not rigorous in the first instance, they find it difficult to be rigorous now. This in turn has established a cycle of under-performance and every University in the country is suffering from it. I hope you do not mind if I say that your University too may not be an exception.

Having said all this in a critical vein, I would now like to refer to another dimension of this problem. While a good deal of blame is to be attached to those within the profession, I cannot say that those without it are free from blame either. In saying this I refer to people who are responsible for policy making and educational administration in the country. In the case of university education, many authorities are involved both at the Centre and in the States. The persons who are most visible to people in the States are the Education Secretaries, the Vice-Chancellors, Ministers of Education, Chief Ministers and Chancellors. I am not sure that each one of us is performing well. Perhaps I am being too cautious about it. The fact of the matter is that most decisions taken by us tend to strengthen lack of professionalism, low performance and unsatisfactory output. I hesitate to say it but I suspect that many of the decisions are governed by political considerations. I think it should be plainly stated that the moment we choose to be political in respect of academic matters, we begin to assist in destroying the academic process. Unless I exaggerate, the academic process is a delicate plant. It needs nurture and attention in a detailed way. Every single step that is taken has an impact upon the next step that is proposed to be taken. And if we are guided by questionable considerations and are sometimes irresponsible and even morally wrong in certain cases, we cannot claim that we are not responsible for having brought the universities to this pass.

I do not know how it can be done but unless we are able to curb the tendency of Governments to put inferior people in positions of leadership due to caste, communal or political considerations, university education cannot be saved. Our real difficulty today is that many people enter the academic profession through questionable means. At one time our pride was that we were the one profession where sycophancy played no role. Today unfortunately that is not so. It is quietly forgotten by people in power that with inferior persons in authority, Universities cannot function as centres of learning. I have said it elsewhere but I believe it needs to be repeated that where a nation's universities fail to produce men and women of high intelligence and character, the nation will deteriorate. When badly educated men and women with a low culture and a narrow outlook become the guardians and rulers of the nation, then the nation is in real peril.

For the greater part of my life I was a teacher. Nothing gives me greater satisfaction than to teach in the classroom and interact with students. Even after I retired, the University of Delhi was good enough to give me the status of Professor Emeritus. That enabled me to keep on lecturing and till the very day that I left Delhi to take up the Governorship of Kerala, I was teaching in the classroom. Indeed, I look forward to going back to the classroom once this part of my assignment is over. That is where I essentially belong. For the rarefied atmosphere in which I move today, I am a bit of an interloper.

I have spoken about myself like this for the simple reason that I cannot imagine having had a more rewarding time in my life than when I was in the classroom. Dealing with students and with young people is a great joy. I have had this joy in ample measure. But I have often felt that perhaps some of the younger teachers these days do not enjoy teaching very much. Indeed, I get the impression that they find teaching boring. I am sorry for them. They do not realize what they are missing. To lecture in a class and notice that look of recognition in the eyes of students which conveys the ineffable feeling that they are responding to what I am teaching has always given me a sense of real fulfilment.

May I presume to ask a question? Does each one of us enjoy teaching? And if we don't, then what is it that gives us joy? If it is more acquisitions, more wealth and more property or more things of that kind, then I humbly submit that there is something wrong with our sense of priorities. All these things are important. I have had them in full measure. I do not disdain them. I even crave for them sometime but never at the cost of my basic commitment which is to my discipline for which I have opted and the objective of instructing others that I have laid down for myself. It has so happened in our country that some of these things have displaced those academic concerns which were held dear at one time. In my opinion this is a perversion of values. To repeat, I see nothing wrong with having a high status and even wealth and other privileges of life. But if these things become the primary considerations and our commitment gets relegated into the background, then there is something wrong with us. Let us not forget that teaching is a profession, not a trade and as a profession it has its own code of conduct. Now there is nothing wrong if one is attracted by trade. Only that such a person would be a misfit in the academic profession. If my remarks have displeased some of you, please forgive me. Only remember that I am talking to my fellow-teachers and what I have said is not a put on act but flows from my heart.

I may have sounded harsh but my difficulty is that I belong to a generation when Colleges and Universities were regarded as places where character was formed, attitudes shaped and minds enriched. Today things have greatly changed. There is an alarming erosion of both public and private morality and a new culture is emerging which not only permits but also encourages manipulation of everything within reach for personal benefit. I wish the Universities could combat this new culture. After all Universities alone can inculcate a different value-system – a value-system which is distinctly superior to the prevailing attitudes and practices. If I may say so, it is their duty to represent norms and standards that the surrounding world can emulate. As centres of learning they alone can produce men and women who by their lifestyle, their conduct and intellectual and moral courage can rebuke the increasing all-round degradation of our public life. The country has reached a stage where it can be saved only through a cultural revolution and this revolution has to begin in the Universities.

Another function that Indian Universities have to perform is to produce experts in various fields who can help to solve the many problems that the country is facing.

Our main problem, of course, is our poverty. In 1947, while laying the foundation stone of the National Physical Laboratory, Pandit Nehru had said that the 'primary purpose of this Institute' was to be 'the removal of poverty of India's millions'. Now, after more than forty years, we are still talking of the removal of poverty of India's millions and that poverty is still there. The only difference now is that the distance between those who dominate our economy and those who are its victims has vastly increased giving rise to the kind of social tensions that we had never experienced before. Whether it is a religious conflict or a caste conflict or a conflict based on language or regional imbalance, the root of all these conflicts is our underdeveloped economy which makes large numbers of people feel that they have been discriminated against and that those in power must be dislodged if they are to get justice. Most of the bitterness could have been contained if we could somehow overcome stark poverty and remove the real or imagined sense of grievance. Of one aspect of this grievance those of us who live in this part of the country are not fully aware. I am referring to the violent movements emerging in various States which have a sizeable tribal population. Call them Naxalites or what you will but the fact is that unless we find a solution to the problems faced by the tribal people, we would have no peace. Social

(Contd. on page 24)

CALENDAR OF EVENTS

Proposed Date of the Event	Title	Objective	Name of the Organising Department	Name of the Organising Secretary/ Officer to be Contacted
March 9-15, 1992	International Conference on Experiential Learning	To promote experiential learning and other scientific, educational, cultural and related activities and spiritual pursuits	Indian Society for Experiential Learning, Pondicherry	Prof. S. Mohan, Prof. of Physics, Pondicherry University, Pondicherry
April 8-10, 1992	Programme on Profit Planning: Cost, Pricing & Liquidity Management at Ahmedabad	To understand cost-price-profit relationship & its relavance in corporate management intending to survive & prosper and also to highlight planning & management area in all its complexities	The Institute of Costs & Works Accountants of India	Mrs. Rama Kashinath, Joint Director (PD & P) The Institute of Costs & Works Accountants of India, 3, Institutional Area, Lodi Road, New Delhi - 110 003
August 11-16, 1992	8th World Congress for Rural Sociology	Theme : Rural Society in the Changing World Order	International Rural Sociology Association, USA	The Pennsylvania State University, 306, Agricultural Administration Buliding, University Park, Pennsylvania - 16802
August 16-19, 1992	55th Annual Meeting of the Rural Sociological Society	Theme : Rurality and the Global Environment	Rural Sociological Society, USA	-do-
August 26-28, 1992	Second International ISKO Conference on Cognitive Paradigms in Knowledge Organisation	To provide a forum for scholars working in the field of knowledge organisation	Madras Library Association in collaboration with Sarada Ranganathan Endowment for Library Science and University of Madras	Mr. S. N. Kumar Conference Secretariat, 5, Sivaganga Road, Madras-600 034
October 26-31, 1992	Third IAU Mid-Term Conference to be held at Alexandria, Egypt	Theme:Adaptation of University Management Structures and Strategies for New Requirement	International Association of Universities (IAU), France	Dr Franz Eberhard, Secretary General, International Association of Universities, 1, rue Miollis, 75732 Paris Cedex 15 France
November 9-13, 1992	16th World Conference on Distance Education for the Twenty-First Century	To give a view of the aspects of development in Distance Education in the Twenty-First Century	International Council for Distance Education, in cooperation with Sukhothai Thammathirat Open University (STOU), Thailand	Mr. Bruce Scriven, Program Chair – 16th World Conference of ICDE, Queensland University of Technology, Locked Bag No. 2, Red Hill Queensland 4059, Australia
November 25-30, 1992	IAEWP 6th World Congress	The Congress will deal with (1) Socail Welfare, (2) Health Care, and (3) Educational Needs	International Association of Educators for World Peace (IAEWP) in co-operation with Social Action Movement, Malta	Dr. Suryanath Prasad, International Co-ordinator, IAEWP 6th World Congress & World President, IAEWP, Janta College of Education, P.O. Box 113, Chandrapur-442 401 Maharashtra, India

First Convocation of Jamia Hamdard

University Grants Commission Chairman Prof. G. Ram Reddy emphasised the urgent need for promoting environmental education in a big way to create mass awareness about the problem of degradation due to population boom and excessive pollution. Pointing out that even a large number of educated people were not aware of the seriousness of environmental degradation he stressed that the universities and educational institutions must promote more active participation of the student community in social problems such as environment and literacy, apart from carrying out their important functions of teaching and research. Prof. Reddy was delivering the Convocation Address at the first convocation of the Jamia Hamdard University in New Delhi recently.

"Educational institutions, teachers and students cannot remain silent spectators of the fast-deteriorating envrionmental scene", the UGC Chairman said. In this context, he added, it was heartening to note that the National Policy on Education stated there was a paramount need to create consciousness about the environment which must permeate through all age groups and sections.

Referring to the environmental problem, he stated that the situation had assumed alarming proportions and while some action was being taken at national and international levels, concern had not percolated down to the ordinary man and woman in the country. He regretted that important institutions like political parties, trade unions, teachers' associations, students' unions, lawyers' and other professional associations exhibited hardly any awareness of environmental dangers.

Prof. Reddy felt that the problem could not be tackled by any single specialist but through the concerted efforts of sociologists, economists, scientists and technocrats who could combat the evil which was threatening the very survival of mankind.

He expressed the belief that environmental education should consider the environment in its totality — natural and manmade, ecological, political, economic, technological, social, cultural and aesthetic.

He appealed to educationists to interweave environmental education in all branches of studies so that the learners became conscious of future threats. In this context, he said that he was glad to know that Jamia Hamdard had "very rightly" selected environmental botany and bio-technology as thrust areas of research.

He also complimented the founder and chancellor of the university, Hakeem Abdul Hameed, whose efforts had led to the setting up of the institution. "I wish we had more philanthropists like him so that universities could run without excessive dependence on the State for their finances," the UGC Chairman said.

Ph.D degree on one candidate and Master of Pharmacy degrees on 17 others were conferred at the first convocation of the University.

Chandran Devanesan Memorial Lecture

Prof. Nurul Hasan, the Governor of West Bengal said that universities and colleges should play a very important role in making the country compete with others in research and development, and assimilate high technology. He was delivering the sixth Dr.Chandran Devanesan Memorial Lecture on Some Thoughts on Higher Education in Madras recently. He said it was time the people were educated and their standard of living raised. The aim should be not to open educational institutions indiscriminately. Instead, the available resources should be used in the most judicious manner.

He said the suggestion of the University Grants Commission for setting up one lead college in every district with more scholarships and hostel facilities should be given serious consideration as it would help reduce the costs while providing quality education. Likewise, the scope of distance education, which has taken deep roots, should be further expanded, he added.

Prof. Nurul Hasan rejected the charge that more money was being spent on higher education, while the poor continued to suffer for want of resources and financial support. The real problem was that allocation for the education sector had declined over the years. The turning point came during the fifth Plan period when there was political turmoil in the country.

He said it was not true that education in India was confined to the upper class. There had been a dramatic revolution. The poor now have access to higher education and this was evident by the demands for reservation in the field of education.

Referring to the concept of capitation fee, Prof. Nurul Hasan said it helped the rich have greater access to education. He urged State Governments to ensure that education was available to all so that there could be social justice, equality of opportunity and improvement of productivity.

The Tamil Nadu Governor, Mr. Bhishma Narain Singh, presiding over the function organised by the "Roofs for the Roofless", said the academic environment in the country needed improvement. In some universities and colleges, casteism, regionalism, indiscipline and forced closures were taking roots. The quality of courses was poor and there were drop-outs and failures resulting in colossal waste of scarce resource. Much credence was also not being attached to grades awarded by universities and colleges and all major employers in the public and private sectors had their own tests to judge the merit of the candidates.

He said apart from the fact that facilities for corporate life, cultural activities and sports in educational institutions were either non-existent or under-utilised, there was hardly any debate about national issues or values. The teaching and studying process was becoming a part-time occupation aimed essentially at the award of degrees.

Education in a democracy should be imbued with a certain vision of man, of what he is and what he may become. It should subscribe to ends that may be described as freedom, justice and equality. It should help build the character of the youth and instil in them a sense of national pride and sensitivity towards social problems.

Mr. Habibullah Basha, welcoming the gathering, said the present crisis in the field of education should be addressed by every section of society in all seriousness.

Course in Spoken English for SCs & STs

Dr. K. Jayashankar, Vice-Chancellor, Kakatiya University, recently inaugurated a two-month long special course in 'Spoken English' offered by the Department of English for the scheduled caste and scheduled tribe students of the Kakatiya University. Speaking on the occasion Dr. Jayashankar said "English language, as any other language, has its own peculiarities. Compared with some of the Indian languages, it is very simple in certain respects and very complex in certain other respects."

Referring to the diverse forms of spoken English in India as well as in English speaking countries, Dr. Jayashankar observed that the mother tongue of a person was bound to influence the other tongue of a person. Citing examples from the Indian situation, he explained how a single word was pronounced in different ways in different parts of India because of the influence of the mother tongue.

Dr. Jayashankar further said that there were several parameters like pronunciation, grammar, syntax, intelligibility etc. by which the efficacy of spoken English of a person could be assessed and of all these parameters, intelligibility was the most important.

In his keynote address Prof. Bala Subramanian, Head, Department of Phonetics and Spoken English at the Central Institute of English & Foreign Languages (CIEFL), Hyderabad said "students with rural background and Telugu medium education need not feel diffident about English. Given the will and determination and given the help offered by short-term courses like the present one, it is not difficult to acquire a fairly reasonable facility in the use of English."

Prof. P. Shiv Kumar, Head, Department of English of the Kakatiya University said that the department had already submitted proposals to set up a permanent 'English Language Teaching Centre' (ELTC) with a view to offering tailor-made courses to meet the English learning needs of people from various walks of life.

Nalands Open Varsity Study Camp

Dr. Kumar Bimal Vice-Chancellor, Nalanda Open University, recently inaugurated a Study Camp organized by the University for the students of Certificate Course in Food and Nutrition. Referring to the latest trends in Geo-politics of Food Aid for developing countries and Nutritional Intervention Programme adopted by different departments of the Government, Dr. Kumar Bimal said that in India, agricultural production was contributing approximately 40% of the GNP and 26% of the total volume of exports. It deserved special mention that after 1950 India made rapid strides in food production from 50 million tonnes in 1951 to 150 million tonnes in the nineties. But because of population explosion the per capita availability of foodgrain could not increase upto the desired level. The marginal increase, which India could achieve from 395 gm. in 1951 to 463 gm. per day in the 90s is not very heartening. Food-cum-nutritional self-sufficiency is a global necessity. It is estimated that the world, especially the third world is cursed with approximately 75 crore poor people out of which about 2 crore of such extremely poor people die annually of acute hunger. This alarming situation makes imperative the effective working of World Food Bank.

Dr. Bimal disapproved the Western consumerism and its inherent commodity culture and pleaded for increase in production, equality in distribution and restraint on consumption.

To make this Study Camp more useful, informative and interesting for the students, a live demonstration of some food items and recipes was arranged. As an audio-visual aid to the CFN course materials, the cassettes prepared by IGNOU and distributed by E.T. & T., Delhi were also displayed in the Study Camp.

VIII Carbohydrate Conference

The Eighth Carbohydrate Conference sponsored by the Association of Carbohydrate Chemists & Technologists (India) and Regional Research Laboratory, Trivandrum will be held during 18-20 November, 1992 at Regional Research Laboratory, Trivandrum, India. The Conference will consist of a poster session, invited lectures as well as contributory papers and will generate and exchange information on recent advances in carbohydrate research. A panel discussion on special topics e.g. complex carbohydrate will also be arranged as part of the conference.

Topics proposed to be discussed include (1) Carbohydrate chemistry and structure, (2) Synthesis of carbohydrates, (3) Fermentation/ Biotransformation of carbohydrates and (4) Polysaccharides.

Further information may be obtained from Dr. Ashok Pandey, Convener or Dr. K.C.M. Raja, Organizing Secretary, VIII Carbohydrate Conference, Regional Research Laboratory, Trivandrum 695019.

Microbial Diversity

Dr. H.D. Kumar, Prof. & Head, Dept. of Botany, Banaras Hindu University, Varanasi recently delivered a lecture on "Microbial diversity" at the Holkar Science College, Indore. In his address he pointed out that these days RNA was gaining more importance and showed that our present theory that only proteins could form enzymes needed modification. Prof. Kumar emphasised the importance of single cell proteins for the countries of the third world, who were facing the problem of malnutrition due to protein deficiency. Single celled microorganisms, he added, were able to grow at pH 10 to 10.5. Such alkali tolerant species could be grown in salt marshes and proteins so harvested could be used in diet. Prof. Kumar also pointed out that *Spirulina*, a cyanobacterium had property to produce 65 to 70% proteins by weight and it could easily replace meat. It is very common in sambhar lake and grows at pH 7.5 to 8.00 In the market spirulina tablets are available which can be taken as protein diet. When microorganisms are used at industrial level then it becomes Biotechnology.

Prof. P.S. Kale, Principal, Holkar Science College, in his presidential remarks pointed out that till last decade Physics was the challenging field for scientists but now Biotechnology appeared to have replaced it.

Seminar on Self-Employment Opportunities

"There is need to create awareness among the educated youth of the country about the limitations of government and government funded agencies in providing employment opportunities and motivating them for seeking avenues for self-employment," said Dr. K. Jayashankar, Vice-Chancellor, Kakatiya University while inaugurating a seminar on "Self-Employment Opportunities for Commerce Graduates" organised by the Department of Commerce at the University Arts & Science College, Warangal recently.

Dr. Jayashankar said that the employment generating potential in the government institutions was extremely limited and there was no scope of further expansion. Citing the example of Andhra Pradesh, he said that hardly 2 percent of the state's population was employed in government and government funded agencies and if the average size of a family was considered five, the total coverage would come to about 10 percent of the population of the state.

Referring to certain estimates made regarding the expenditure incurred by the state on the salaries of its employees, Dr. Jayashankar said that more than 50 percent of the state's revenues were spent on salaries paid to this 2 percent of population employed by government and government funded agencies. He further said that the entire income of the state would have to be spent on salaries alone if the employment potential in government sector was increased by another 2 percent of the state's population. In such a situation, the illusions about the increasing opportunities of employment in government sector should be dispelled and the youth should be dissuaded from hunting the non-existent jobs in government sector and should be motivated to settle down in self-employment schemes.

Dr. Jayashankar stressed the importance of self-employment schemes, and said that the persons employing themselves would be better motivated and more disciplined in performing their work since their very survival depended upon it.

In his keynote address Prof. A. Shankaraiah, Registrar of the University said that the commerce graduates had an edge over the other graduates in running self-employment ventures on sound lines in different sectors of industry and trade. He touched upon the concept, policy and problems in implementing self-employment schemes in general and the self-employment opportunities for the commerce students in particular.

Prof. Shankaraiah felt that the self-employment schemes did not yield the desired results and to improve the situation, he suggested, among other things, the need for restructuring the course content to suit the changing needs of industry, technology and society.

Penside Rinderpest Diagnostic Kit

'Penside Rinderpest Diagnostic Kit' devised by Tamilnadu Veterinary and Animal Sciences University, Madras was recently released by Shri P.G. Muralidharan, Commissioner and Secretary, Animal Husbandry Department, Government of India.

The Penside Rinderpest Diagnostic Kit is a portable economic and sensitive penside kit for rapid diagnosis of rinderpest. This kit is based on the principle of counter immuno electrophoresis which is routinely used for detection of rinderpest antigen. A set of six 9 volt batteries is connected to an indigenously devised buffer tank fitted with carbon electrodes. A multimeter is also provided to check the efficacy of the batteries (volts) and the test system (milliamperes) periodically. 1% agarose gels made in 0.02 M barbitone buffer pH 8.6 is cast on microscopic slides. Three pairs of wells, 4 mm in diameter and 3 mm interspace are cut. Known positive, negative and suspect samples are loaded against rinderpest hyperimmune sera and run for 45 minutes. A clear precipitation line occurs in positive cases. The batteries can be used for around 25-30 tests. The cost of the kit is around Rs. 600-700.

Refresher Course on Gandhian Studies

The UGC sponsored Refresher Course on Gandhian Thought was conducted at the Gujarat Vidyapith from 23-12-91 to 12- 1-92 for lecturers who were teaching any aspect of Gandhian thought under a full course of Gandhian studies or under any discipline of social sciences. First of its kind, the course was designed to deepen the understanding of application of Gandhian approach. It was inaugurated by Prof. Ramlal Parikh, Vice- Chancellor of the Vidyapith.

Five main themes covered were : (1) International Relations : A Gandhian Perspective, (2) A Gandhian View of Indian Political System, (3) A Gandhian Perception of Indian Economy, (4) India: Gandhian Ways of Social Reconstruction, and (5) Gandhian Approach to Ecology and Environment. The course outlines together with a short list of essential readings on each theme were circulated to the participants in advance. The participants were also required to prepare a paper on a topic of their choice in the context of Gandhian ideals.

Twenty participants came from fifteen universities and institutions of India. Several workshops at which resource persons initiated discussions on different topics invoked a very high degree of participation. The resource persons initiated discussions leading to summing up of highlights of the issues requiring threadbare discussion in the light of the contemporary situation in the country and the world.

The last three days were set aside for the participants to present their contributions on different topics of their choice. All the twenty participants made their written contributions on as many as fifteen wide-ranging topics. These included : Satyagraha, Gandhian approach to Economics in the present context, Symptoms of Violence & application of Non-violence, The basis of Trusteeship, Gandhiji's views on Partition of India, Political Philosophy of Gandhiji, Gandhiji's approach to communal problems, Social Philosophy of Gandhiji, Gandhiji on Religion and Politics, Women's Role in Social Transformation, Gandhian alternative of Development, Economic Philosophy of Sarvodaya, and Gandhiji's Views on Decentralization.

Mangalore Varsity Convocation

Delivering the convocation address at the 10th annual convocation of Mangalore University at Konaje Mr. Pranab Mukherjee, Deputy Chairman, Planning Commission, said that the syllabi, curricula and classroom techniques of higher education should be revised and reoriented for the acquisition of special skills such as learning to think and create and to instil ethical and moral values in the minds of the learners.

He said, "Higher education must create an awareness among students that there are many cultures, many traditions and sets of values in India, which, imbibed by us during our formative years, decide our attitudes and behaviour in later life."

Mr. Mukherjee regretted that the curricular reforms brought had ended up as marginal additions to the syllabi. A holistic and need-based approach was required to reorient education. The national policy of education envisaged a national curricular framework which would promote India's common cultural, heritage, democracy, secularism, protection of environment, removal of social barriers and inculcation of a scientific temper. There must be a foundation course which incorporates the dimension of value education, he suggested.

He felt that new strategies of development were required so as to reorient students, make them self-reliant and able to participate in the development process of the nation.

Workshop on Teacher Education

"The study of theoretical foundations of education and the practice teaching are the two vital components of any teacher education programme. While the former enables the teacher trainees to imbibe certain values pertaining to education, the latter inculcates in them the skills of teaching," said Dr. K. Jayashankar, Vice-Chancellor of the Kakatiya University. He was inaugurating the one-day workshop on developing an effective lesson plan schedule organised by the faculty of Education of Kakatiya University recently.

Dr. Jayashankar said if a teacher trainee was given training only in theoretical aspects, he would emerge like a surgeon who was conversant only with the theories of surgery without knowing the art of performing the actual surgery. Likewise a teacher trainee with adequate training in practice teaching without proper knowledge about the theories of education would emerge like a quack who might appear to be satisfying the patient without any knowledge about the theories of medicine.

Referring to the importance of practice teaching in the realm of teacher education, Dr. Jayashankar observed that over the last three decades, there had been significant changes in the methodology of teaching in the wake of fast technological advancement. Use of electronic gadgets like tape-recorder, video and audio cassettes, film projectors, slides etc. had added a new dimension to the concept and use of teaching aids in the classroom. Therefore, he opined that unless the teacher trainees were exposed to the use of modern equipment, they might remain outdated in the use of teaching aids which was an important component of practice teaching.

In his presidential address Prof. S. Parmaji, Dean, Faculty of Education suggested several measures for bringing about qualitative improvement in teacher education to meet the needs of the changing society.

Fellowship for PG Studies

The Department of Education, Ministry of Human Resource Development, has invited applications for granting fellowships for the post-graduate studies during 1992-93, under the Jawaharlal Nehru Fellowship Scheme.

Candidates must be Indian citizens and should have outstanding academic records with a first class degree in humanities, law, science and technology. They should not be more than 30 years of age, on October 1 of the year of selection. Applications should reach National Scholarship Division, Department of Education, Shastri Bhavan, New Delhi, by April 15,1992.

News from Agricultural Universities

Role of Agriculture in Indian Economy

"It is imperative on the part of the agricultural planners and policy makers that agricultural policies are reformulated and made practically effective in accordance with the modern day to day changing circumstances", said Dr. Yoginder Kumar Alagh, an eminent Economist, former Member of Planning Commission and presently Vice-Chairman, Gujarat State Planning Board while delivering the 5th Sir Chhotu Ram Memorial Lecture at Chaudhary Charan Singh

Haryana Agricultural University, Hisar. In his lecture entitled "Role of Agriculture in Indian Economy", Dr. Alagh analysed the cyclicality in our agriculture plans. He said that in spite of the attempts at raising public investments in agriculture and allied sectors, the economy had been reversed and price-level was rising at a rate of 13 to 15 percent annually. Thus the policy failures has cracked the edifice of Indian rural credit with the genuine prospect of real credit disbursement. If India has to be self sufficient in agricultural front in real sense, the practical difficulties faced by the farmers must not be overlooked by the planners and those sitting in high offices. The policies and those for whom they are meant cannot be separated. Dr. Alagh lauded the role of HAU in uplifting the status of farming community through its research and extension programmes.

Dr. Amrit Lal Chaudhry, Vice-Chancellor, who presided paid tributes to Deen Bandhu Sir Chhotu Ram and said that during his three decades of struggle Sir Chhotu Ram initiated not only agrarian reforms but also enabled the farming community and downtrodden sections to get their due. Describing Sir Chhotu Ram to be a social reformer and an apostle of peace, the Vice-Chancellor said, the social evils like litigation and dowry against which Sir Chhotu Ram fought for had brought awakening among the masses as a whole.

On this occasion Dr. Chaudhry honoured Dr. V.B. Shekar, Sorghum Breeder and Senior Research Scientist and his associates Prof. R.S. Wadhokar, Jr. Sorghum Breeder, Prof. S.K.Jilani, Jr. Sorghum Breeder, Shri N.R. Potdukhe, Sr. Research Asstt. (Sorghum) and N.G. Solanke, Agri. Scientist of the Panjabrao Krishi Vidyapeeth, Akola (Maharashtra) with Sir Chhotu Ram National Award for their outstanding achievement and contribution in agricultural research and rural development. The award carries a cash prize of Rs.10,000/- and a citation. These researchers besides developing several new high yielding and disease resistant varieties of sorghum have also published the Package of Practices of Sorghum Crop in the form of books resulting into increasing the sorghum productivity in the country several folds.

Veterinary Graduates Take Oath

Dr. A.L. Chaudhry, Vice-Chancellor, Chaudhary Charan Singh Haryana Agricultural University, while addressing the fresh veterinary graduates said that as a result of good coordination between the state government and the veterinary experts, intensive cattle development programmes have been implemented in the state resulting into the overall livestock improvement in the region. He said that to look after the livestock scientific lines, there should be one veterinarian for on a population of 3000 livestock whereas in Haryana, there are only 450 veterinary surgeons to look after the 65 lacs livestock population of the state which is very insufficient. Dr. Chaudhry advised the new graduates to serve the livestock population in the interior villages with dedication because the prosperity of the state equally depends on animal husbandry programmes as on agriculture.

Dr. B.D. Garg, Dean, College of Veterinary Sciences administered the oath to 26 veterinary graduates to serve the livestock with dedication, honesty and on medical ethics at a oath taking ceremony.

Indira Gandhi National Open University

Schedule of Telecast for the period 1 March to 31 March

6.30 a.m. to 7.00 a.m.

Date/Day	Academic Prog.	Title & Course
2.3.92 Monday	Bachelors Degree Programme (BDP)	Development & Underdevelopment
4.3.92 Wednesday	Cert. in Food & Nutrition (CFN)	1. Apna Bhojan Kitna Surakshit 2. Open Channel
6.3.92 Friday	Management	Effective Selling
9.3.92 Monday	Bachelors Degree Programme (BDP)	Vikas Aur Alpa-Vikas
11.3.92 Wednesday	Computers in Office Mgt.(DCO)	Office & The Computer-I
13.3.92 Friday	Management	Probability Fundamentals
16.3.92 Monday	Bachelors Degree Programme (BDP)	Simple Societies
18.3.92 Wednesday	Diploma in Distance Edu (DE)	Communication Across the Distance
20.3.92 Friday	Management	Probability Applications
23.3.92 Monday	Bachelors Degree Programme (BDP)	A Window to the Universe
25.3.92 Wednesday	Computers in Office Megt. (DCO)	1. Office & The Computer-II 2. Open Channel
27.3.92 Friday	Management	Demand Forecasting
30.3.92 Monday	Bachelors Degree Programme (BDP)	Brahmand Ki Khoj

News from UGC

Countrywide Classroom Programme

Between 3rd March to 9th March 1992 the following schedule of telecast on higher education through INSAT-1D under the auspices of the University Grants Commission will be observed. The programme is presented in two sets of one hour duration each every day from 1.00 p.m. to 2.00 p.m. and 4.00 p.m. to 5.00 p.m. The programme is available on the TV Network throughout the country.

Ist Transmission

1.00 p.m. to 2.00 p.m.

3.3.93

"Nomenclature of Organic Compounds-I: Introduction"

"Introduction to Programmed Learning"

"The Dinosaur-III: Evolution of Dinosaur"

4.3.92

"N.D.T. -III: Eddy Currents"

"Fragments from the Past: National Archives-I"

"The Tree Grass"

5.3.92

"Electronics: The Hope and the Future"

"Earthquake Effects on Civil Structures"

"An Interview with Adit Jussawalla"

6.2.92

"Butter Flies: The Jewels on Wings—The Life Cycle"

"The Legacy of Wilhelm Von Humboldt"

7.3.92

"Camping with Science-I"

"Calcutta Metro-II: Fast Forward"

"The Week Ahead"

8.3.92

No Telecast

9.3.92

"Angular Momentum-I"

"Management -IX: Humanising Work"

"Indian Agricultural Statistics Research Institute"

IInd Tramsmission

4.00 p.m. to 5.00 p.m.

3.3.92

"Lab Safety"

"The beginning of a new movement"

"Rabies, 100 years after Pasteur Frances."

4.3.92

"Know them By Dialogue: A talk with Claude Garrigues-II"

"The Great Encounter-I: Victoria Ocampo and India"

"Biotic Interaction"

5.3.92

"Single Tuned Amplifier"

"Celebration of Spring-II"

"All my Sons: Critical Appreciation-II"

6.3.92

"Journalism Education: Making News"

"Childhood Disabilities - II: Indian Scenario"

"Nature's Comeback"

7.3.92

"Paul Gauguin"

"From Weimar to Rome"

"The Week Ahead"

8.3.92

No Telecast

9.3.92

"Remote Sensing-XXII:NNRMS"

"Management-V: Orgnaisation Aids Transtel"

"Black Art"

Career Advancement of Lecturers

The guidelines circulated by the UGC vide its letter No. F.1-6/90 (PS Cell) dated January 29,1990 for the career advancement of Lecturers in universities/colleges provide among other things that the Lecturers should have participated in two Refresher Courses/Summer Institutes each of approximately four weeks duration or engaged in other appropriate continuing education programmes of comparable quality as may be specified by the UGC. It has been further provided in the guidelines that Lecturers who were in service before 1-1-1986 and who are eligible for placement in the Senior Scale/Selection Grade/Reader in accordance with the provisions of the Scheme may be placed accordingly by relaxing the above requirements upto 31st December, 1991.

The Commission at its meeting held on 31st December, 1991 considered the issue again and agreed to relax the condition for participation of Lecturers in the Refresher Courses/Summer Institutes for placement in the Senior Scale/Selection Grade/Reader upto 31st January, 1993. This relaxation is applicable to those of the lecturers who were appointed before 1-1-1986. This has been circulated to the universities vide UGC's letter No. F. 1-8/91 (PS Cell) dated January 22, 1991.

We Congratulate...

1. **Dr. Iswar Chandra Mohapatra who has been appointed Vice-Chancellor of the Orissa University of Agriculture and Technology, Bhubaneswar.**
2. **Dr. N.K. Choudhury, Vice-Chancellor, Gauhati University, and Professors M. M. Sarma (Sanskri,t) K. M. Pathak (Physics) and Hiren Gohain (English) who have been awarded Governor's Gold Medal for their outstanding services towards the academic field of the State of Assam.**

News from Abroad

Smuts Visiting Fellowship in Commonwealth Studies

The Managers of the Smuts Memorial Fund invite applications for a Smuts Visiting Fellowship in Commonwealth Studies for the academical year 1993-94. The tenure of the Fellowship will be for one year from 1 October, but the date of the commencement of tenure may be altered by the Managers by not more than a few months to suit the convenience of the person appointed. The Fellow will be expected to reside in Cambridge during the major part of the tenure of the appointment and to advance Commonwealth Studies in Cambridge, mainly by pursuing research, but also by participating in the teaching work of the University. The interests of the Managers of the Smuts Memorial Fund embrace Commonwealth-related aspects of the following fields: archaeology and anthropology, economics, history, human geography, law, literature, Oriental studies, and social and political sciences. The Editorial Board of the Cambridge Commonwealth Series will consider publication in the Series of suitable work produced during the tenure of the Visiting Fellowship.

The emolument of the Visiting Fellow will be a sum to be determined by the Managers, after taking account of his or her other resources, up to £ 6,000. The Managers will be prepared to consider awarding additional emoluments on the basis of financial and family circumstances. They may also, after considering the Fellow's resources reimburse part or all of the cost of travel to Cambridge and back. Applicants for the Fellowship should be members of the staff of another university or other suitably qualified persons; officers of this University are not eligible. Preference will be given to promising younger scholars from the overseas countries of the Commonwealth who have a record of substantial research experience, including a Ph.D. Degree or equivalent qualification. Applications from such candidates who are temporarily within the United Kingdom will also receive consideration.

Applications should include the names of three persons to whom reference may be made and may be accompanied by not more than two testimonials. They should contain a curriculum vitae, list of publications, details of the proposed work to be undertaken in Cambridge, and details of the applicant's probable financial resources for the period of tenure of the Fellowship. They must be sent to the Secretary to the Managers of the Smuts Memorial Fund, 4 Mill Lane, Cambridge, CB2 1R7, so as to reach him not later than 31 May 1992.

Why We Are Underdeveloped?

(Contd. from page 15)

scientists, environmentalists, social activists and bureaucrats working in the tribal areas have all jointly to find an answer to their problems.

Similarly we have to jointly find answers to our other problems. Universities claim that so much research is being done in social sciences and, of course, every one seems to be proud of the researches of our natural scientists. But unfortunately, the impact of these researches is not being felt on the ground as much as it should. The other day, while inaugurating the Golden Jubilee celebrations of the Council of Scientific and Industrial Research, the Prime Minister praised 'the culture of scientific research' in India but pleaded with the scientists for a 'break-through' to solve our many problems. He ended his address with the following words : "It has to be Indian research suited to Indian conditions, taking into account the Indian problems and bringing about Indian solutions." You will agree with me that the journey between what we said in 1947 and what is being said today is not all that distant. Can our scientists, can our social scientists, claim in all conscience that their research is Indian research oriented towards solving Indian problems? We have limited funds, we have also limited time at our disposal and problems have to be solved if we are to survive as a nation with dignity.

All that I can say to the young graduates is that times are changing very fast and, I believe, for the better. Throughout the world today people are in search of a better and a more civilized world order. We in India often lose heart forgetting that there are clear signs that the world is increasingly becoming one. A new economic order is certainly emerging and, hopefully India too would play an important role in it. A country of our size and resources cannot be ignored in any reordering of priorities. The European countries have already set an example. They have shed their sovereignty and merged in one economic community. This momentous decision is bound to affect the rest of the world too. If there are no wars and expenditure on arms can be reduced, we can usher in a new era of prosperity. There is an attempt everywhere in that direction and nations are realizing that war in one part of the world is a threat to the rest of the world. This indeed is the gift of nuclear arms to mankind.

With peace and prosperity you shall enter into a world of new opportunities. You are lucky that you are entering life at a time like this. I hope that some day you will feel like saying, what an English poet said at the time of the French Revolution:

> Bliss was it in that dawn to be alive,
>
> But to be young was very heaven.

Value Oriented Education

T.K.N. Unnithan*

Kishore, Lalit. Value-Oriented Education : Foundations and Frontiers — World View. Delhi, Doaba House, 1990, pp.115, Price Rs. 120

Khanna, C.P., Eternal Education . Delhi, Doaba House, 1990, pp. 99, Price Rs. 150.

Since our independence which was achieved through a non- violent socio-political movement led by Mahatma Gandhi there have been overtures and exhortations from almost all quarters about the need for imbibing positive human values by individuals of all ages. Do we not remember the enthusiasm with which one of the former Vice-Presidents of India, Mr.B.D. Jatti, took up the cause of moral and spiritual education with all universities and other educational institutions? Has not the Education Commission indicated its importance? Have the politicians ever stopped talking about 'value based politics; value based education' and in general 'value oriented behaviour'? Have not special conferences of Vice-Chancellors called by the UGC and by the University of Rajasthan unanimously recommended to make our entire education system more value oriented? And to crown it all, has not our National Education Policy made specific provisions (Para 8.4, Para 8.5 and Para 8.6 etc.) to emphasise on Value Education as an effective instrument of positive social change? In spite of all these it is noteworthy that precious little is being accomplished in our efforts to make our behaviour value oriented. In the field of education as a whole almost nothing worthwhile is being done. If we have to give even a semblance of our desire to live as we preach, greater opportunities have to be provided for value inculcation and serious attention to value oriented education. Any contribution towards this objective has to be regarded as laudable.

It is in this context that we have to value the considered opinion and concrete suggestions of educational experts. Both the authors Lalit Kishore and C.P. Khanna have made a unique contribution in convincingly demonstrating to recalcitrant educational pundits and statesmen the need to immediately make our entire education system fully value oriented if our goal is to build a better India.

Lalit Kishore's book *Value Oriented Education* is divided into ten chapters and has three appendices and a bibliography. The author starts with the usual lament of our value crisis, 'our social life' being full of corruption, violence, cynicism, hypocrisy, exploitation, etc. which he tries to substantiate by quotations from some studies and reports. He righteously feels that "the present system of education has indeed become dysfunctional and there is an urgency of revamping it to make it value-oriented". According to him "until and unless educational system is made value charged, there is no hope for India to come out of present rot; all out efforts should be made to shift the emphasis from book teaching and book-learning to an all-round development of the students' personality leading to the formation of a national character."

Rest of the book represents an effort to indicate effective ways of making our education value oriented. Chapters 2, 3, 4 and 5 contain essentially quotations, summation of reports, definitions of concepts and classification of values. As such, though they are useful in a book of this kind nothing original has been expounded. Similarly Chapter ten : 'Value Thoughts : World Perspective' is only a compilation of aphoristic statements of several authors.

However, the contents of chapters 6,7 and 8 constitute a definite contribution towards any effort to make our education more value oriented. It is easy to theorise, it is easy to exhort but it is extremely difficult to practise or to implement what is professed. The importance of impairing value education is well recognised. But the difficulty is in the actual implementation of a sound value education programme. Lalit Kishore has done a signal service to the cause of education by working out strategies and explaining the methodology of impartation of value education.

Although, students, parents and community should be fully involved in the process of value education, it is the teacher who should be the pivot of any sound value education programme, as Lalit Kishore recognises. One would agree with the author that "the teacher must com-

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**Former Vice-Chancellor, University of Rajasthan, Jaipur.*

bine different value-focusing procedures for the value-orientation of his students. No one approach can serve the purpose. There is a need to use different value-focusing procedures in different situations with more emphasis on informal and experimental approaches."

The book '*Eternal Education*' by C.P. Khanna is in many ways a companion volume to the book '*Value Oriented Education*' by Lalit Kishore. And it reinforces many of the points raised in the latter.

The book is divided into two parts; Part I deals with value oriented education and Part II is devoted to narrating some educational tales indicating ideal teacher-student relationship with reference to teachings of the Gita, Isha Upanishad and Sufi wisdom and ending with the wise story of Initiation by Mahatma Junun.

Having expressed his dissatisfaction about the 'turbulent' situation in the country and recognising the increasing degree of discontent, frustration and unhappiness which manifest in the conduct and behaviour of the people all over in every walk of life, like Lalit Kishore, Mr. Khanna, "emphasizes the need to infuse in the present generation of human race a spirit to imbibe such values as would help them develop and blossom into a healthy and integrated society". For this he suggests value oriented education.

Most of us who are in the field of education are familiar with the various concepts used in this context and perhaps 'value oriented education' does not need any special explanation. Yet it may be useful and operationally sound to have conceptual clarifications.

Chapter V on Programme of Value Education deserves attention of all interested in giving good education to our children. Most appropriately the author highlights the role of the teacher in value oriented education. Like Lalit Kishore, Khanna assigns crucial role to the teacher in making our education value oriented. If our teachers can follow all the steps or at least the most important ones enunciated by the author we can be confident that Indian education can help in ushering in a better social order where there will be qualitatively better social relationships, peace and harmony. And we fully endorse the view of the author when he says : "We would like to reiterate, however, that if the teacher is to play his right role in the promotion of value-oriented education, the teacher himself should be value-oriented. It is only when he is himself value-oriented, that he will be able to give the necessary inspiration, help and guidance to his students. As we have noted elsewhere, values cannot be taught merely by discourse, just as swimming cannot be taught merely by lectures. A good teacher of swimming has to be a swimmer himself, and he should be able to take the learner into the waters to make him swim. Similarly, a teacher of values, should himself be a seeker and aspirant of values and he should be ready to walk with the learner on the long and difficult path of realising and embodying values."

And in Chapter 8 on 'Task Ahead' the author suggests setting up of 'pace setting value oriented institutes' and a national organisation to be in charge of value oriented programmes of teachers training. In his own words, "there is an urgent need to create a National Organisation which would have adequate powers and functions to ensure that the teachers who would be incharge of the care of the children, adolescents and youth of our country are not only well specialisation – trained in professional skills related to their subjects but will also have effective personality and character capable of providing the needed guidance and inspiration to the growing minds and hearts of the young, as also a wide vision of our country and the world serving as sure basis for patriotism, international understanding and voluntary optimism for a peaceful, progressive and glorious future. There is a need in the country to establish and/or to support certain pace-setting value-oriented institutions for teacher education, atleast one in each State and Union Territory which would serve as models and which would ensure State-level research and experimentation in teacher education. These pioneering and pace-setting value-oriented institutions should be rational in character and they should embody national policies in regard to teacher education. There should thus be a national body charged with functions and powers to establish and conduct these pace-setting value-oriented institutions. Moreover the evaluation of teacher-trainees, which needs a radical change, can be effectively handled, if the proposed national organisation may be empowered to hold National Public Examination which would reflect high and competent standards. In practical terms, there is need for the establishment of a National Council of Teachers Education – very different in scope and purpose from the existing infrastructure." This suggestion merits consideration.

The merit of these books would have been greater if the authors had taken care to take into account and include the positive achievements of the experiments in value oriented education currently undertaken by the Sathya Sai Schools and Nai Talim Schools.

However, both books *Value-Oriented Education: Foundations and Frontiers – World Over View* by Lalit Kishore and *Eternal Education* by C.P. Khanna would be valuable additions to any library.

On the Teaching of English

The views expressed by A.K. Ghosh and Swapan Kumar Sen on the need to restructure the teaching of English in Indian Universities in their paper 'Teaching of English with a Creative Outlook in Indian Universities' *University News* 13 Jan, 1992 deserve serious consideration not only by teachers of English but also by all teachers of languages in our institutions of higher learning. The blatant fact is that there is little difference between the objectives of teaching languages at the high school level and the university level. There is very little of a creative orientation in language teaching in our higher education. Without such an orientation it is doubtful if our language courses could be enriched. However it is also doubtful if this could be done with the same ease in respect of English as it could be in respect of regional languages.

The doubts that could be raised in respect of English and with a lesser emphasis in respect of other regional languages could be the following :

(1) Do we have sufficient number of creative teachers to impart the necessary orientation to the teaching of languages in our various universities? Because unless a teacher himself is creative, it is doubtful if he can convey the necessary excitement to be creative to his pupils.

(2) Are our students sufficiently motivated and equipped to receive the proposed orientation? Because without an adequate command over the everyday language, it is doubtful if creativity could be cultivated among the pupils.

(3) Aren't we already providing a certain creative orientation to students offering journalism or communication skill courses?

(4) Is it possible to devise a foolproof system of evaluation in respect of such courses?

In spite of the fact that there are no easy answers to the above doubts, I believe that something positive needs to be done in this direction.

May I suggest the following modifications in our present methods of teaching English in our institutions of higher learning :

(1) To give more weightage to free composition, precis writing, comprehension of unseen passages in our sylabi;

(2) Make adequate provision for self expression on the part of pupils through seminars, group-discussions, college magazines, wall-papers etc. ?

The above mentioned modifications may not make our pupils creative writers but at least it will make them capable of expressing themselves with clarity and simplicity.

A. L. Deshpande
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The Benedictory Address

Benedictory Address by Shri Sathya Sai Baba, Chancellor of the University, published in *University News*, January 20, 1992 is thought provoking and has enough relevance to the present environment prevailing in our country. I quote few lines.

"Today, students are going on the wrong path. You have to dedicate your life for the prosperity and well being of your country. You should not look upon personal happiness and comforts of life as the goals of life. They are petty aspirations. Such personal comforts must be treated as something unimportant". While memorising the above mentioned ideology for my personal life, few points struck to my mind.

In my humble opinion, this ideology is against the natural law of selfishness. Psychologists have opined that man is born selfish; therefore he always gives first preference to his personal happiness. How a man can let go his personal happiness when only "he alone" suffers unhappiness? So to give up the personal happiness is a contradictory concept.

Ideology and social environment never match in its real sense. Therefore the hypothesis of giving up personal happiness and comforts of life is superfluous. In practical way of life, common man gives up all ideology as soon as his personal interests are challenged. Society is full of common men and students are the part of it. The analogy raises one more question, i.e. whether man is totally free to behave accordingly and as directed by his virtues?

The verdict is to adjust one self to the environment keeping moderate balance between ideology and social truth.

N M Munshi,
Reader,
Department of Commerce
Bhavnagar University
Bhavnagar.

AIU Library

Established in 1965, the AIU Library has acquired over the years a valuable collection of books and documents on higher education. Among the topics prominently represented are educational sociology, educational planning, educational administration, teaching & teachers' training, examinations, economics of education and country studies. Developing fields of adult education, continuing education and distance education, and educational technology are also well stocked.

The library is particularly strong in its collection of reports whether they are on the setting up of different universities or on the state of higher education. Files of annual reports of different universities are also maintained. Readers are kept informed of the latest acquisitions through our column 'Additions to the AIU Library'.

The library receives about a 100 periodical titles on higher education. All these are indexed regularly and a select list appears every month as 'Current Documentation in Education'. Similarly our column 'Education News Index' reports editorials and articles on higher education published in over 20 newspapers that are received in the library from all over the country.

The library is steadily building up a collection of audio and video cassettes on matters educational and maintains a well appointed Audio-Visual Room equipped with a double deck audio cassette recorder, a VCR and a colour TV monitor, and an overhead projector.

Doctoral Degrees awarded during the preceding month are reported as 'Theses of the Month', while registrations made for such degrees are flashed as 'Research in Progress'. Bibliographies are also compiled and supplied on demand.

Research Scholars and students of education are welcome to use these resources. The Library is open from 9.00 a.m. to 5.30 p.m. Monday through Friday. Access can also be had through inter library loan for which requisition must be made through your Librarian.

RESEARCH IN PROGRESS

A list of Research Scholars registered for Doctoral Degree in Indian Universities

SOCIAL SCIENCES

Library & Information Science

1. Bose, Kaushik. **Information networks in India: Problems and prospects.** Vikram. Dr A Tejomurty, Reader, School of Studies in Library and Information Science, Vikram University, Ujjain.

2. Gursharnjit Singh. **Continuing education of Library and Information Science faculty in Indian Universities: An appraisal of modes and methods.** Punjabi. Dr Jagtar Singh, Department of Library and Information Science, Punjabi University, Patiala.

3. Maheshinder Singh. **Attitude of postgraduate students towards the use of Punjabi University Library, Patiala and Guru Nanak Dev University Library, Amritsar: A comparative study.** Punjabi. Dr Jagtar Singh, Department of Library and Information Science, Punjabi University, Patiala.

4. Rajeswari, D. **The use of information sources in Sciences and Social Sciences by the faculty and research scholars at Women's universities in India: A study.** Padmavati. Dr P Kamaiah, Department of Library and Information Science, Sri Padmavati Mahila Viswa Vidyalayam, Tirupati

Psychology

1. Jasseer, J. **Certain adjustment facilitating and adjustment debilitating variables in adolescence.** Kerala. Dr H Sam Sanantha Raj, Reader, Department of Psychology, University of Kerala, Kariavattom.

2. Sumam, K R. **A psychological study of patients with cancer in the re-productive organs.** Kerala. Dr S Jayakumari, Reader, Department of Psychology, University of Kerala, Kariavattom.

3. Varghese, Raji. **Bureaucrats and elected representatives: An analytical study.** Kerala. Dr S Jayakumari, Reader, Department of Psychology, University of Kerala, Kariavattom.

Political Science

1. Bhawana Devi. **Role of family and education in political participation of women: A case study of women political activists in H P.** HP. Dr O P Gautam, Department of Political Science, Himachal Pradesh University, Shimla.

2. Chacko, E D. **Voting behaviour of the Syrian Christians in Kerala since 1987.** Kerala. Dr N Jose Chander, Director, Institute of Correspondence Courses, University of Kerala, Kariavattom.

3. Chauhan, Rakhil. **Regionalism in the Himalayas: A comparative study of politics-economic dimensions of sub-regionalism in H P and Uttarakhand, U P.** HP. Dr O P Gautam, Department of Political Science, Himachal Pradesh University, Shimla.

4. Govind Ram. **Role of bureaucracy in the working of Indian Federalism: A study of Himachal Pradesh.** HP. Dr V D Kaushik, Department of Political Science, Directorate of Correspondence Courses, Himachal Pradesh University, Shimla.

5. Khem Raj. **Emerging trends in rural leadership in Himachal Pradesh.** HP. Dr D C Sood, Department of Political Science, Himachal Pradesh University, Shimla.

6. Khurana, Mohan Lal. **Housing cooperative societies in Delhi: A study in national development.** HP. Dr Ranbir Sharma, Department of Political Science, Himachal Pradesh University, Shimla.

7. Rajamony, M. **The role and function of Marxian ideology and party in Kanyakumari District, 1967-90.** Kerala. Dr D Jayadevadas, Reader, Department of Politics, Institute of Correspondence Courses, University of Kerala, Kariavattom.

8. Suresh Kumar. **Deendayal Upadhyaya's philosophy of integral humanism.** HP. Dr S Kapoor, Department of Political Science, Himachal Pradesh University, Shimla.

9. Uma Kumari. **Nation and region: A study of interactions among the parties of National Front.** HP. Dr R S Chauhan, Department of Political Science, Himachal Pradesh University, Shimla.

10. Vijay Kumar. **Students Federation of India: A comparative study of its performance in some universities.** HP. Dr Gopal Singh, Department of Political Science, Himachal Pradesh University, Shimla.

Education

1. Kamat, Shubhada Mohan. **The study of the use of text-based software in teaching-learning Mathematics in secondary schools.** Shivaji. Dr M S Sonar.

Commerce

1. Bhandawale, Bhalchandra Raghunath. **A study of marketing of turmeric in Sangli District: Problems and prospects.** Shivaji. Dr T A Shiware, Chhatrapati Shahu Central Institute of Business Education and Research, Kolhapur.

2. Deshmukh, Umesh Manikrao. **A comparative study of materials management of engineering and sugar industries in Kolhapur District.** Shivaji. Dr T A Shiware, Chhatrapati Shahu Central Institute of Business Education and Research, Kolhapur.

3. Diwan, Ravindra Vamanrao. **Financial analysis of urban co-operative banks: A study of Belgaum District.** Shivaji. Dr (Mrs) V M Kashalikar, Devchand College, Arjunnagar.

4. Gadade, Siddheshwar Tukaram. **Management of Ujani Irrigation Project and impact of the project on the economic development of the command area.** Shivaji. Dr A D Kurkute, 449/3, Sadar Bazar, Satara.

5. Jacob, V J. **A study of lending policy and repayment pattern of the Kerala Financial Corporation.** Kerala. Dr K B Pavithran, Sreelas, Pongummood, Thiruvananthapuram.

6. Kulkarni, M M. **Entrepreneurship development through vocational education in Western Maharashtra.** Shivaji. Dr R M Tungare, Chhatrapati Shahu Central Institute of Business Education and Research, Kolhapur.

7. Kulkarni, Shreekant Gopalrao. **Consumer protection and attitude: A study of selected consumer goods.** Shivaji. Dr P S Rao, Chhatrapati Shahu Central Institute of Business Education and Research, Kolhapur.

8. Madyan, Chandrabhan Lakmechand. **Comparative study of sales tax laws of Maharashtra and neighbouring states.** Shivaji. Dr T A Shiware, Chhatrapati Shahu Central Institute of Business Education and Research, Kolhapur.

9. Mohanchandran, B S. **Impact of priority sector lending by commerical banks on the rural development of Kerala.** Kerala. Dr K B Pavithran, Sreelas, Pongummood, Thiruvananthapuram.

10. Murugan, P. **A comparative study of mineral economy of Kerala and Tamil Nadu: A case study of Kerala's mineral economy.** Kerala. Dr T Edwin, Counsellor, Indira Gandhi National Open University, Trivandrum Study Centre, Institute of Management in Government (Annexe), Thiruvananthapuram.

11. Nilpankar, Ramchandra Shankarrao. **A comparative study of practices of management in the office of selected medium and large scale establishments in a private, co-operative and public sectors in Kolhapur District.** Shivaji. Dr R L Moktali, D R K College of Commerce, Kolhapur.

12. Okere, Loveday. **A study of human resource management with special reference to recruitment, selection and training of managerial and non-managerial staff in the Nigerian banks.** Shivaji. Dr Babu Thomas, Chhatrapati Shahu Central Institute of Business Education and Research, Kolhapur.

13. Salunkhe, Raghunath Dnyanu. **Performance appraisal of sugar industry in Sangli District.** Shivaji. Dr T A Shiware, Chhatrapati Shahu Central Institute of Business Education and Research, Kolhapur.

14. Tady, Vaishali Gajanan. **A study of wastage control in process industry with special reference to Marathe Textile Mill, Miraj.** Shivaji. Dr B N Belagali, G A College of Commerce, Kolhapur.

15. Vijayachandran Pillai, B. **A study on the role of Government agencies for the development of coir industry in Kerala.** Kerala. Dr K B Pavithran, Sreelas, Pongummood, Thiruvananthapuram.

Home Science

1. Divya Lata. **Socio-emotional development of children in substitute child care.** Delhi. Dr Neerja Sharma, Department of Home Science, Lady Irvin College, Sikandra Road, New Delhi.

HUMANITIES

Language & Literature

English

1. D'Cruz, Daphne. **Modes of illusion in the plays of Edward Albee.** Kerala. Dr Jancy George, Reader, Institute of English, University of Kerala, Thiruvananthapuram.

2. Jyotsna, S S. **The paradoxes of female representation in the plays of Eugene O' Neill.** Kerala. Dr Jancy George, Reader, Institute of English, University of Kerala, Thiruvananthapuram.

3. Mirajkar, Asha Ramchandra. **Themes in the poetry of Philip Larkin.** Shivaji. Dr S R Suryavanshi, Rayat Shikshan Sanstha, Satara.

4. Sawant, Naren Ramchandra. **Generic variations in George Orwell's novels.** Shivaji. Dr P B Deshpande, Department of English, Shivaji University, Kolhapur.

5. Shinde, Indira Shankarrao. **The picaresque element in Joyce Cary's novels.** Shivaji. Dr C J Jahagirdar, Department of English, Shivaji University, Kolhapur.

Sanskrit

1. Chaturvedi, Rajesh Kumar. **Adhunik Sanskrit sahitya ko Durba patrika ka yogdan.** H S Gour. Dr Asha Sarvate.

2. Tiwari, Kamlesh Kumar. **Dr Ramkaran Sharma: Vyaktitva evam krititva.** H S Gour. Dr Asha Sarvate.

Punjabi

1. Jagtar Singh. **Nanak Bani: Pramukh teekaon da mulyankan.** Panjab. Dr Jaspal Kaur, Directorate of Correspondence Courses, Panjab University, Chandigarh and Dr Harbhajan Singh, C-158, Mansarovar Garden, New Delhi.

Hindi

1. Jain, Anjali. **Swantrayottar Hindi sahitya patrakarita mein**

prayukta Hindi ka bhasha vaigyanik adhyayan. H S Gour. Dr Rajmati Diwakar, Lecturer, Department of Hindi, Dr Hari Singh Gour Vishwavidyalaya, Sagar.

2. Jayasree, S R. **Linguistic study of the poetical works of Mahadevi Verma.** Kerala. Dr V Nandikesan Nair, Athira, Chekkalamukku, Sreekariyam P O, Thiruvananthapuram.

Marathi

1. Bhadkamkar, Avinash Shripad. **Marathi katheteel balmanache chitran, 1885 to 1985.** Shivaji.

2. Jadhav, Udaysing Ramchandra. **Vibhavari Shirurkar: Ek chikitsak abhyas.** Shivaji. Dr P B Tapare, Kisan Veer Mahavidyalaya, Wai.

3. Kashid, Sharada Vishnupant. **Jayaram Swami Wadgavkar yanchya vangnaycha vivechak abhyas.** Shivaji. Dr K B Kundap, S G M College, Karad, Dist Satara.

Malayalam

1. Rony, V O. **Nishedhattinte talangal malayala novelil - Takazhi, M T Vasudevan Nair, M Mukundan Ennivarute Rachanakale adhisthanamakki oru patanam.** Kerala. Dr D Benjamin, Reader, Department of Malayalam, University of Kerala, Kariavattom.

Geography

1. Bailbhinge, Bhimrao Ramchandra. **Fruit farming in Solapur District: A geographical analysis.** Shivaji. Dr C T Pawar, Department of Geography, Shivaji University, Kolhapur.

2. Guru, Ashok Kumar. **A geographical study of malnutrition and immunisation in Sagar District, M P.** HS Gour. Dr P D Tiwari.

3. Navals, Arvind Maruti. **Pandharpur: A study in piligrimage tourism.** Shivaji. Dr S R Deshmukh, Department of Geography, Shivaji University, Kolhapur.

History

1. Bhardwaj, Divya. **M P ka Shak Kshatrap shaskon kee mudrayon ka itihasik, samajik evam sanskritik adhyayan.** Vikram. Dr J N Dube, Lecturer, Department of Ancient Indian History, Culture and Archaeology, Vikram University, Ujjain.

2. Puranik, Prashant. **Madhya Pradesh kee Uma Maheshwar pratimayon ka shilpagat vivechan.** Vikram. Dr Mastram Singh, Asst. Prof. Department of Ancient Indian History, Culture and Archaeology, Vikram University, Ujjain.

THESES OF THE MONTH

A list of Doctoral Theses accepted by Indian Universities

SOCIAL SCIENCES

Psychology

1. Firdous. **Physical, social and personality factors of mate selection among working and non-working men and women.** AMU. Dr Akbar Hussain, Lecturer, Department of Psychology, Aligarh Muslim University, Aligarh.

2. Lone, Mohd Sultan. **A study of depression in relation to self-esteem, stressful life-events and parental attitude.** AMU. Mrs Hamida Ahmad, Reader, Department of Psychology, Aligarh Muslim University, Aligarh.

3. Mahanwal, Jai Singh. **Application of derivative UV-spectroscopy for detection of drug abuse.** Kurukshetra.

4. Rajaram, S. **Social indicators in the prognosis of alcoholics.** Bangalore. Dr S M Channabasavanna, Director, National Institute of Mental Health and Neuro Sciences, Bangalore.

5. Rangaswami, K. **A study of psychological problems, cognitive functions and quality of life of people with epilepsy.** Madras.

6. Sharma, Rama. **A study of communal prejudice in relation to locus of control, security-insecurity and prolonged deprivation among students.** AMU. Dr Saeeduzzafar Abdullah, Reader, Department of Psychology, Aligarh Muslim University, Aligarh.

7. Velmurugan, M. **Need patterns of entrepreneurs behaviour as small scale, medium scale, and large scale industries in Tamil Nadu.** Madras.

Sociology

1. Chauhan, Arvind. **Dynamics of agrarian relations and social structure with special reference to a village in Western Uttar Pradesh.** JNU. Prof K L Sharma, Centre for the Study of Social Systems, Jawaharlal Nehru University, New Delhi.

2. Gouri, V. **Role of traditional birth attendants in promoting health and family planning programme in India.** Venkateswara. Prof K Mahadevan, Department of Population Studies, Sri Venkateswara University College, Tirupati.

3. Mishra, Sanjay Kumar. **Industrialization and social structure: A case study of Hatia, Ranchi.** JNU. Prof K L Sharma, Centre for the Study of Social Systems, Jawaharlal Nehru University, New Delhi.

4. Samuel, M Johnson. **Patterns of female migration in Tamil Nadu.** JNU. Prof (Mrs) Sudesh Nangia, Centre for the Study of Regional Development, Jawaharlal Nehru University, New Delhi.

5. Shanaz Sultana. **The process of socialization of Muslim child in urban setting with special reference to Gulbarga.** Gulbarga.

6. Sharma, Raghu Nandan. **Making of the Indian working class: A comparative study of two industrial towns in Bihar.** JNU. Prof T K Oommen, Centre for Study of Social Systems, Jawaharlal Nehru University, New Delhi.

7. Sofia Tarannum. **Psycho-social study of breast feeding practice in rural-urban population of Aligarh District.** AMU. Prof Noor Mohammad, Head, Department of Sociology, Aligarh Muslim University, Aligarh.

Social Anthropology

1. Choudhury, Rabindra Narayan. **Folk deities of Lower Assam with special reference to Goalpara Region.** Gauhati. Dr Birendranath Dutta, Prof and Head, Department of Folklore Research, Gauhati University, Guwahati.

Social Work

1. Ganguly, Kalyan Kumar. **Role of hospital services in determining the health culture of the community: A study of Jahangirpuri, a resettlement colony of Delhi.** JNU. Dr S K Sahu, Centre of Social Medicine and Community Health, Jawaharlal Nehru University, New Delhi.

2. George, K C. **A study of economic status and life style of agricultural labourers in village in the Madurai District.** Madurai.

Political Science

1. Das, Lilabati. **Indo-Bangladesh relations from 1971-81.** Gauhati. Dr P D Gogoi, Reader, Department of Political Science, Gauhati University, Guwahati.

2. Das, Parthasarthi. **Role of Zilla Parishads in rural development: A study of Coochbehar and Jalpaiguri Districts of North Bengal.** NBU.

3. Gupta, Maitreyi. **Calcutta slum: A study in public policy intervention.** Calcutta.

4. Gurpreet Singh. **South-South cooperation: A case study of India's economic relations with Tanzania and Nigeria.** Delhi.

5. Jawed, Mohd Aslam. **Political thought of Iqbal.** Delhi.

6. Joshi, Mangleshwari. **Poorva Nimad Jile ke swatantrata senaniyon ka Bharatiya rashtriya andolan mein yogdan.** HS Gour. Dr (Smt) Girija Nigam, Department of Political Science, Govt Girls Degree College, Khandwa.

7. Kausar, Zeenath. **Nationalism and inter-nationalism in Islam: A comparative study of the ideas of Maulana Azad and Maulana Maududi.** AMU. Dr Shan Mohd.

8. Krishnavenamma, N. **Continuity and change in India's foreign policy during Mrs Indira Gandhi's period with special reference to its neighbours.** Venkateswara. Prof M V Subha Rao, Prof (Retd), Department of Political Science, Sri Venkateswara University, Tirupati.

9. Mishra, Ajoya Kumar. **Political socialization of industrial workers: A case study of Rourkela Steel Plant.** Sambalpur. Dr A P Padhi, Prof, Department of Political Science, Sambalpur University, Jyoti Vihar, Burla.

10. Mohammad Arif Hameed. **Disarmament and arms control: A study of India's policy, 1966-84.** AMU. Dr A P Sharma, Prof, Department of Political Science, Aligarh Muslim University, Aligarh.

11. Mohanan, M K. **Political role of the United Nations Secretary-General: Assessing the evolving operational framework.** JNU. Prof K P Saksena, Centre for International Politics, Organization and Disarmament, Jawaharlal Nehru University, New Delhi.

12. Mukhopadhyay, Amartya. **West Bengal Government's transportation policy for Calcutta and the Calcutta State Transport Corporation (C S T C).** Calcutta.

13. Nath, Alpana. **The socio-economic basis of the rural power structure: A case study of Panchayati Raj institutions in Karimganj District.** Gauhati. Dr P S Reddy, Prof and Head, Department of Political Science, Gauhati University, Guwahati.

14. Padhee, Ranjan Kumar. **Genesis and growth of Warsaw Pact, 1954-79.** JNU. Prof Zaffar Imam, Centre for Soviet and East European Studies, Jawaharlal Nehru University, New Delhi.

15. Pathak, Sudha. **Mahashaktiyon kee upmahadwipiya rajniti: Bharat vibhajan se Pakistan vibhajan tak, 1947 se 1972 tak.** Vikram. Dr R S Gautam, 56, Mahashweta Nagar, Ujjain.

16. Qamruddin. **Foreign policy of Iran since 1979.** AMU. Dr Mohd Iqbal.

17. Ramamurthi, T G. **Non-white unity movement in South Africa: A study of collaboration between the African National Congress and the South African Indian Congress, 1950-1960.** Delhi.

18. Satpathy, Asutosh. **The problems of nation building in Nigeria.** JNU. Prof Vijay Gupta, Centre for West Asian and African Studies, Jawaharlal Nehru University, New Delhi.

19. Swain, Ashok. **Security of small states in the international system.** JNU. Prof K P Mishra, Centre for International Politics, Organization and Disarmament, Jawaharlal Nehru University, New Delhi.

Economics

1. Ajit Singh. **An analytical study of non-adoption of recommended practices for wheat crop by the farmers of Panjab State.** PAU.

2. Ashok Kumar. **Performance of the nationalised commercial banks: A case study of the Bank of India.** Magadh.

3. Bose, Sutapa. **The problems of primitive accumulation.** Visva-Bharati. Prof Ashok Rudra, Department of Economics and Politics, Vidya-Bhavana, Visva-Bharati, Santiniketan.

4. Das, Nanigopal. **Agricultural financing in Bangladesh: Its problems and realities.** Calcutta.

5. Dutta, Jyoti Prakash. **Industrial growth and investment in Bangladesh since independence.** JNU. Dr Abhijit Sen, Centre for Economic Studies and Planning, Jawaharlal Nehru University, New Delhi.

6. Goswami, Jayanta Kumar. **Evaluation and working of the West Bengal budget with special reference to refugee rehabilitation measures, 1947-74.** NBU.

7. Haddad, Akram Masoud. **Jordan's industrial development with special reference to the economic development plans since 1973.** Nagpur. Prof (Mrs) Sunanda Sonarikar, Head, Department of Economics, Nagpur University, Nagpur.

8. Janki, K. **Impact of capital intensity and technical progress on employment, distribution of value added and productivity in the organised industrial sector-India.** Osmania.

9. Jandhyala, Sesha Chalapathy. **Public debt in Andhra Pradesh.** S Gujarat. Dr B V Mehta, Prof and Head, Department of Economics, South Gujarat University, Surat.

10. Madhuresh Chandra. **Impact of small scale lift irrigation on crop productivity employment and its optimization.** Roorkee.

11. Maheshwari, Pankaj. **Ujjain Jile mein sehkarita andolan: Krishi sakh ke sandarbh mein.** Vikram. Dr R M Goyal, E-3/169, Arera Colony, Bhopal.

12. Patel, Kashinath Somji. **Economic efficiency of sugar industry in Marathwada Region of Maharashtra.** Marathwada Agri.

13. Prasuna, A Indira. **Female work force participation in Andhra Pradesh.** Venkateswara. Dr K Narasimhulu, Department of Economics, Sri Venkateswara University College, Tirupati.

14. Shah, Farida. **A study of rural-urban migration in relation to economic development with special reference to Udaipur, Banswara and Bhilwara Districts.** Sukhadia. Dr (Mrs) Ila Chakravarti, Assoc Prof, Department of Economics, Mohan Lal Sukhadia University, Udaipur.

15. Sharma, Vijay Kumar. **Trade unionism in India: Retrospects and prospects.** Kurukshetra.

16. Sidhu, Harpreet Kaur. **Distribution of fertilizers in Panjab State.** PAU.

17. Somayajulu, M S S. **Paper industry in A P : An analysis of behaviour of costs, productivity and profits.** Osmania.

Public Administration

1. Raghunath, Kotta. **Management of distance education: A case study of A P Open University.** Andhra.

2. Versha. **Public interest litigation vis-a-vis judicial activism: An assessment.** Kurukshetra.

Education

1. Andal, R. **Concept mapping in learning physical science and its relation to scholastic performance, cognitive ability, attitude towards concept mapping and science interest among ninth standard students.** Madras.

2. Bhattacharyya, Smritikana. **An investigation into the problems of scholastic backwardness of adolescent girl students in and around Calcutta.** Calcutta.

3. Biswal, Gopal Charan. **Needs and problems of a tribal com-**

munity in Orissa with regard to education: An indepth study. Baroda.

4. Gupta, Madan Mohan. **A comparative analysis of learner's profile, course modalities, learning outcomes and impact of the on-campus and off-campus B.Ed. programmes of Jammu University.** Jammu. Dr Arun Kumar Gupta.

5. Mridula. **Economics of open learning system: Comparative cost of higher education through IGNOU.** JNU. Prof Tapas Majumdar, Zakir Hussain Centre for Educational Studies, Jawaharlal Nehru University, New Delhi.

6. Nandani, M C. **A study of the value adjustment, attitude towards teaching profession and academic achievement of teachers' children as compared to non teacher's children.** Saurashtra. Dr D A Uchat, Prof and Head, Department of English, Saurashtra University, Rajkot.

7. Narang, Sandhya. **Women primary school teachers in Delhi, their role conflicts, perceptions of social accountability and professional culture.** Jamia. Prof S R Ruhela, Department of Teachers Training and Non-Formal Education, Jamia Millia Islamia, New Delhi.

8. Narayana Murthy, Bodasakurthy. **A study of classroom climate and pupil motivation in relation to academic achievement in secondary schools of Vizianagaram District in Andhra Pradesh.** Andhra.

9. Panda, Banchhanidhi. **An evaluation of National Service Scheme in Sambalpur University.** Sambalpur. Dr B Biswal, Reader, Department of Education, P N College, Khurda, Puri.

10. Sen Barat, Kalpana. **An investigation into the personality make-up, intelligence and study habit of high and low achievers.** Calcutta.

Commerce

1. Bidwai, Deepak Gangadharrao. **Profile of Indian managers.** S Gujarat. Dr L M Prasad, Ex-Prof, Department of Business and Industrial Management, South Gujarat University, Surat.

2. Bishoyi, Siboram. **Collective bargaining practices in manufacturing industries of Orissa: An empirical study.** Berhampur. Prof B S Murthy, Department of Industrial Relations and Personnel Management, Andhra University, Waltair and Prof M Gangadhara Rao, Department of Commerce and Business Administration, Andhra University, Waltair.

3. Jain, Madhu. **Impact of taxation on saving behaviour of private corporate sector in India.** Delhi.

4. Kulkarni, G S. **Management of District Central Cooperative banks in Karnataka: A case study of the Gulbarga District Central Cooperative Bank Ltd, Gulbarga.** Gulbarga. Dr Bhogappa, Department of Commerce, Gulbarga University, Gulbarga.

5. Maji, Madanmohan. **Income tax and corporate growth in India.** Burdwan. Prof Amit Kumar Mallick, Department of Commerce, University of Burdwan, Burdwan.

6. Narayanappa, G Lakshmi. **Problems of personnel management in regional rural banks in Rayalaseema.** Venkateswara. Prof N Kamaraju Panthulu, Department of Commerce, Sri Venkateswara University College, Tirupati and Prof E Munirathnam Naidu, Department of Economics, Sri Venkateswara University College, Tirupati.

7. Naresh Kumar. **Lease financing in India.** Delhi.

8. Pawan Kumar. **Financial management of state industrial enterprises in Haryana.** Kurukshetra.

9. Robert, M. **Profitability in public sector banks in India.** Madras.

10. Rode, Madhukar Namdeorao. **A socio-economic study of small farmers in Nagpur District.** Nagpur. Dr V K Upagade, Reader and Head, Department of Commerce, S B City College, Nagpur.

11. Shankara, M. **A study of labour welfare in industrial units in Bangalore.** Bangalore. Dr P N Reddy, Chairman, Department of Commerce and Management, Bangalore University, Bangalore.

12. Soubbarama Reddy, R. **A study of agricultural development banks in Nellore District, Andhra Pradesh.** Venkateswara. Dr B Dasaratha Rami Reddy, Prof, Department of Commerce, Sri Venkateswara University Post Graduate Centre, Kavali.

13. Vagganavar, Malakajappa Mallappa. **Overdues in primary agricultural credit cooperatives in Karnataka.** Karnatak. Late Dr K R Mallikarjunappa and Dr S S Hugar, Reader, Department of Commerce, Karnatak University, Dharwad.

Home Science

1. Pandya, Amita Dinesh. **A study on the traditional and existing costumes of selected tribes in the State of Gujarat.** Baroda.

2. Ranbir Kaur. **Communication behaviour of rural women in relation to house-hold messages through selected print media.** PAU.

Management

1. Hari Haran. **Marketing information system in steel industry with special reference to Steel Authority of India Ltd.** BIT Ranchi.

2. Rani, C. **Training technology and the management training institutions in India: A case study.** Osmania.

3. Sri Krishna, C. **Time perspective in Indian executives.** Osmania.

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DURATION OF FELLOWSHIP: The duration of the fellowship is two years, or until completion of the course of study, whichever is earlier.

VALUE OF FELLOWSHIP: The scholars selected for study in India shall be eligible: (i) for a monthly maintenance allowance of Rs.2,000; (ii) for a contingent grant of Rs. 2,000/- per annum for travel, incidental and other expenses; (iii) tuition, examination fees & other compulsory charges levied by the institution; (iv) for study tours upto a maximum of Rs. 1,000/- per annum. The study tour should be an integral part of the course of study certified by the Head of the Institution as such; (v) for books, stationery etc. Rs. 2,000/- per annum; (vi) for a housing allowance of Rs. 2,000/- per month or actual whichever is less, in case he/she has not been provided hostel accommodation by the college/university; (vii) for travel expenses to and from the place of study at the rates paid by the Ministry of Human Resource Development from time to time.

Indian scholars selected for awards tenable abroad shall be eligible:

(a) for a maintenance allowances of US$8400 (including accommodation) per annum. (b) for a contingency allowance of $1200/- per annum, which includes cost of local travel incidental expenses, books & stationery & other expenses. (c) tuition, examination fees and other compulsory charges payable by the scholar to the University or college. (d) cost of airpassage both ways (economy class) and airport tax from the nearest airport will be met in full.

MINIMUM QUALIFICATION: Candidates must have uniformly outstanding academic records with at least a 1st Class Degree in Humanities, Law, Science or Technology. However selection will not be based merely or academic attainments, the attempt will be to select candidates who are allrounders with evident qualities or intellect, character and personality. Weightage will be given for evidence of creative or innovative ability or artistic talent, or for sports, community service or other cultural activities.

Candidates whose BA/BSc results are still awaited at the time of application, who may potentially obtain a First Class Degree, will also be considered. However, no scholarship will actually be awarded to such candidates until their results are available.

AGE: Not more than 30 years of age as on 1st October, of the year of selection. In the case of Indian candidates relaxation in age upto 3 years will be given to Scheduled Caste/Scheduled Tribe candidates.

Selection of the candidates for award of scholarship will not guarantee his/her admission in the institution in India and abroad. The selected candidates will have to make efforts for admission in the institutes of his/her choice. This Ministry will however, assist, at his/her request, in placement in any institution.

LAST DATE: Applications in the prescribed format together with relevant documents should reach the **Under Secretary, National Scholarships Division, Department of Education, N.S. 1 Section, A-1/W-3, Curzon Road Barracks, Kasturba Gandhi Marg, New Delhi- 110001 latest by 15th April, 1992.** Applications received incomplete or after the last date will not be entertained.

GENERAL INSTRUCTIONS: (i) The application should be made in the prescribed format in duplicate (format given below the advertisement). (ii) A candidate may apply for only one subject of choice. (iii) Mere fulfilment of requirements laid down in the advertisement does not qualify a candidate for interview. Interview letters in a particular subject will be sent only to a limited number of candidates after their applications are examined by a Selection Committee. (iv) Applications must be accompanied by attested copies of all the certificates, diplomas, mark-sheets in respect of all the examinations passed alongwith caste certificate in respect of Scheduled Caste and Scheduled Tribe candidates, and one copy of recently taken passport size photograph with signature (to be pasted on the application form). (v) Equivalent foreign degrees and diplomas are acceptable. (vi) Candidates who have already been abroad for studies/training/specialization either on scholarship or on their own, for a period exceeding six months are eligible to apply if they have been in India for at least 3 consecutive years after returning from abroad. (vii) In the case of candidates qualifying from Universities/Institutions which do not give class or Division, requirements in lieu of 1st Class would be 60% marks and where grades are awarded, the candidates are required to furnish exact percentage of marks and indicate the conversion formula. (viii) The candidates who are employed must apply through their employers. (ix) Candidates belonging to SC/ST community must attach a copy of certificate from the competent authority i.e. first class Magistrate (S.D.O. District Magistrate/Collector). (x) While indicating the period of past stay abroad, candidates would mention the specific dates. (xi) Applications in subject-fields other than those specified in the advertisement will not be considered. (xii)Candidates who do not posses the requisite qualifications need not apply. (xiii) The candidate will submit a typed statement as to proposed course of study, general interests and activities (including sports) and the character of the work at which the candidate aims in later life. This statement should not exceed 1,000 words in length and should be written in as simple and direct manner as possible. (xiv) Incomplete applications and applications received late after the stipulated date will not be considered and no correspondence in this regard will be entertained. (xv) Documents submitted alongwith the application will not be returned. Hence, candidates are advised to send only photo copies of the certificates etc. (xvi) Canvassing in any form will disqualify a candidate. (xvii) The Selection Committee's decision about calling a candidate for interview or selecting a candidate for nomination will be final. **No representations in this regard will be entertained.**

Selection of the candidates for award of scholarship will not guarantee his/her admission in the institution in India and abroad. The selected candidates will have to make efforts for admission in the institutions of his/her choice. This Ministry will, however, assist, at his/her request, in placement in any institution.

NOTE: (Before filling up the applications candidates are advised to go through the instructions carefully).

PROFORMA FOR APPLICATION

1. Name of Scheme
2. Subject
3. i) Name of the candidate: Shri/Smt./Km. (in block letters)
   ii) Marital status
4. Date of birth and the State to which the candidate belongs.
5. Whether a member of SC/ST. If so, give full particulars (enclose certificate duly signed by 1st Class Magistrate).

Recent passport
size photograph,
without photograph
the application
will be considered
incomplete.

6. Academic record starting from High School/Higher Secondary (Attested/Photostat copies of Certificates to be attached).

Name of the University/ Board/ Institution.	Examinations passed	Year of passing	Division/ Class with position, if any*	%age of marks obtained and position if any	Subjects taken

* (In case no division/class is awarded and only grading is done the conversion formula adopted may be mentioned to determine the marks secured).

7. (a) Any special interest in extra-curricular activities such as Physical Education, Sports, Community Service and/or Cultural activities.
   (b) Described and attach certificates or other documentation if any, in the following fields:
   (i) Sports (ii) Community Service (iii) Literary or artistic work and awards, if any, for it (iv) Debating (v) Performing arts vi) Others.
8. Nature of the present employment with date of appointment, designation and the name & address of the employer.
9. Have you been abroad? If so, give full particulars of the country and the period. Also mention the year of return to India.
10. Personal statement :
    (A typed statement not exceeding 1,000 words indicating proposed course of study, general interests and activities (including sports) and the character of the work at which the candidate aims in later lie, to be attached with the application)

Place:
Date:

Signature of Candidate
davp 91/692

MINISTRY OF HUMAN RESOURCE DEVELOPMENT

DEPARTMENT OF EDUCATION

AUSTRIAN GOVERNMENT SCHOLARSHIPS 1992-93

Applications in duplicate are invited on the format given below for a restricted number of sholarships offered by Austrian Government for the academic year 1992-93 in the following Austria related research subjects:-(i) Archaelogy, (ii)Literature,(iii)History, (iv)Philosophy as well as Theology. Only those proficient in the German language need apply.

Duration: The courses will be of a maximum duration of nine months and cannot be extended.

Qualifications: A Master's degree in the concerned subject with 60%marks or above or equivalent qualifications in the subject chosen with two years consecutive experience in teaching/research/practical field after obtaining Master's degree as on 10.3.92. Degree of M.Phil will be counted towards one year's experience.

Age Limits: Between 20 and 35 years as on 1st October,1992.

Allowances: An Allowance of A.S. 6800/- p.m. (A.S. 8000/- p.m. for Asstt. Professor). A housing allowance of A.S. 3000/- may be paid if the student accomodation is not available. No passage cost from New Delhi to Austria and back will be paid by Austrian Government. However, Government of India may consider paying the passage cost both sides to the candidates subject to availability of funds and under certain conditions of pay limits not exceedings Rs. 1000/- per month as old basic pay.

Last date : Applications may be forwarded to **Deputy Educational Adviser, Ministry of Human Resource Development,Department of Education, A-1/W-3 Curzon Road Barracks, Kasturba Gandhi Marg New Delhi 110001** latest by **10 March,1992.**

Notes:i)Candidates who are residing abroad at present need not apply. ii) Candidates who have been abroad on a scholarship are not eligible to apply unless they have completed their three years stay in India after their return. Candidates who have availed of scholarships under the Government scheme of scholarships for study abroad should have completed five years stay in India. iii)Candidates are expected to have some knowledge of geographical situation,culture & heritage of India and Austria. iv) Employed persons must route their applications through their employers. v)Applicants must attach the following documents to their applications: a) No Objection Certificate from their Employers, b) A recent health certificate showing the candidates mental and physical fitness. c)A document giving evidence of employment status as well as guarantee of re-employment after their return to India. d)Two recommendation letters from professors of their universities/colleges. e)All attested copies of certificates/degrees showing educational qualifications and date of birth. f) A detailed research project proposal. g) One certificate on proficiency in German Language. h) Translation of all documents which are not in German or English. vi) Candidates who are underage/overage and not fully qualified, need not apply, vii) Applications received late will not be considered. viii)Incomplete applications without documents will not be considered. ix) Canvassing in any form will be a disqualification.

Austrian Government Scholarships, 1992-93 for
Specific Austria Related Research Projects

A Recent
Passport Size
Photograph

1. Name of the candidates (in Block letters)
2. a) Subject
   b) Sub-subject
3. a) Present Address
   b) Permanent Address
   c) Father's Name & Occupation
   a) Date of Birth
   b) Age as on 1.10.1992
   State to which the candidate belongs.
6. Whether a member of SC/ST Community (If so, attach the relevant certificate from competent authorities)
7. Qualifications (Starting from High School or Hr. Secondary)

Examination Passed	Name of Board/ University	Year of passing	Division or class	% of marks	Subjects taken

(In case no Division or class is awarded and only grading is done, the conversion Formula adopted may be mentioned with exact percentage of marks obtained.

8. Experience.
9. List of papers published, if any.
10. Details of employment

Sl No.	Name/ Designation of post held	Date From To	Name and address of employer	Nature of work	Remarks (Reason for leaving employment)

11. Have you been abroad: If yes, state
    a) Date of leaving India
    b) Date of Return to India
    c) Country visited
    d) Purpose of visit.
12. Proposed Programme of Study/Research specifying
    i) the future plans and prospects of the proposed studies/ research in at least 300 words, and
    ii) work at present engaged in

Date
Place

(Full signature of Candidate)
Full signatures of the employer sponsoring authorities (in case of employed candidates) with seal of the office
davp 91/697

CLASSIFIED ADVERTISEMENTS

UNIVERSITY OF HYDERABAD

(A Central University established in 1974 by an Act of Parliament)

Employment Notification No. RECTT/2/1992

Special Drive for filling up Backlog Vacancies of Scheduled Castes and Scheduled Tribes

The University of Hyderabad invites applications in the prescribed form for the following Non-teaching posts.

Sl.No.	POST	Likely No. of Vacancies	
		S.C.	S.T.
1.	DEPUTY REGISTRAR	1	1
2.	SYSTEMS MANAGER	—	1
3.	MEDICAL OFFICER	—	1
4.	ASSISTANT ENGINEER (CIVIL)	1	—
5.	TECHNICAL ASSISTANT (MCA/DCA)	—	1
6.	STENOGRAPHER	2	2
7.	TRACER	1	—
8.	JUNIOR OFFICE ASSISTANT	1	1

Scales of Pay and gross emoluments at the minimum of the Scales are as follows:

Sl.No.	Scale of Pay	Gross monthly emoluments at the	
		Minimum	Maximum
1,2	3700-125-4590-150-5700	Rs.6,385/-	Rs.8,966/-
3,4	2200-75-2800-100-4000	Rs.4,070/-	Rs.6,685/-
5	1400-40-1800-EB-50-2300	Rs.2,535/-	Rs.4,230/-
6	1200-30-1560-EB-40-2040	Rs.2,215/-	Rs.3,814/-
7.	975-25-1150-EB-30-1540	Rs.1,830/-	Rs.2,989/-
8	950-20-1150-EB-25-1500	Rs.1,815/-	Rs.2,925/-

The prescribed application form and particulars of qualifications, experience etc., can be had either in person from the Recruitment Section in the Administration Building, University Campus in Gachibowli, Hyderabad- 500 134 or by post, by sending a self-addressed envelope of the size 28cm x 13 cm duly affixing postage stamps worth Rs.3/- and superscribing on the top left corner of the envelope "REQUEST FOR APPLICATION FOR THE POST OF ..." to the Assistant Registrar (Recruitment), University of Hyderabad, P.O. Central University, Hyderabad - 500 034.

The last date for receipt applications duly filled in is **20th March, 1992.**

P.Muralikrishna
REGISTRAR

RASHTRIYA SANSKRIT VIDYAPEETHA : TIRUPATI

(Deemed to be University)

NOTIFICATION

Dt. 13.2.1992

Applications in the prescribed form are invited for the following posts in Rashtriya Sanskrit Vidyanpeetha (deemed to be University), Tirupati, so as to be received by the undersigned on or before 5.00 p.m. on **15th April, 1992.**

TEACHING

Subject	Professor	Reader	Lecturer
1. Navya Nyaya	1	—	—
2. Advaita Vedanta	1	1	—
3. Sahitya	—	1	—
4. Jyotisha	—	—	1
5. Pedagogy (Shiksha Shastra)	—	1	—

NON-TEACHING

Assistant Controller of Examinations : 1
Junior Personal Assistant : 1 (Reserved for SC)

Scale of Pay

Teaching: As per UGC rules
Assistant Controller of Examination : Rs.2200-75-2800-100-4000
Junior Personal Assistant : Rs.1400-40-1800-EB-50-2300

The application forms and other particulars can be had from the undersigned by sending a self-addressed envelope 26 x 11cm with stamps worth Rs. 2. The Vidyapeetha reserves the right to consider the candidature of those who have not applied for the post in response to the advertisement and who are otherwise eligible for the post or are outstanding scholars with established reputation and who have made significant contribution to knowledge.

K. Ramachandra Rao
REGISTRAR

VISVA-BHARATI

VINAYA-BHAVANA

Santiniketan, Birbhum, West Bengal

Applications on prescribed forms to be filled in by candidate's own handwriting are invited for admission to one-year B.Ed. and M.Ed. Courses for the session 1992-93 which begins in July.

A. Minimum qualifications for application for admission to B.Ed. Course :

i) For Fresher candidates — should have passed B.A./B.Sc. Examination with any two of the following subjects and with at least second class HONOURS in any of them : Bengali, English, Hindi, Sanskrit, History, Geography, Mathematics, Physics, Chemistry, Life Science, Botany, Zoology. **No compulsory additional subject** read at the undergraduate course shall be considered for the above purpose. Proficiency in games, sports, music, fine arts, crafts and other co-curricular activities will be considered as additional qualifications.

Previous academic achievement will be considered for interview and selection will be made on the basis of previous academic achievement together with results of Admission Test (written & viva) to be conducted by the department.

ii) For deputed candidates — should have passed B.A/B.Sc. Examination with any two subjects mentioned in (i) above.

Continuous teaching experience as an approved teacher in a recognised secondary school will be taken into account for selection.

B. Minimum qualifications for application for admission to M.Ed. course :

Candidates should possess at least a second class B.Ed./B.T./P.G.B.T degree from a recognised college/institution. Selection will be made on the basis of admission test to be conducted by the Department.

Reservation of seats :

15% for scheduled castes candidates and

$7\frac{1}{2}$% for scheduled tribes candidates, 1%

for physically handicapped and 1% for Madrasha teachers.

Prescribed application forms may be had from the Office of the Principal, Vinaya-Bhavana, Visva-Bharati, P.O. Santiniketan - 731235, Dist.-Birbhum (West Bengal) by sending a crossed Indian Postal Order for Rs.5/- payable to the 'Accounts Officer, Visva- Bharati', at the Santiniketan Post Office, and also a self-addressed envelope (23cm. x 10 cm.) affixed with postage stamps worth Rs. 2/- only. Application forms may also be obtained personally from the Office of the Principal, Vinaya-Bhavana, Santiniketan, on production of a Cash Coupon for Rs. 5/- only to be issued from the Office of the Accounts Officer, Visva-Bharati, Santiniketan. Applications duly filled in and completed in all respect should reach the Principal, Vinaya-Bhavana on or before **19th March, 1992.**

N.B. Incomplete applications in any form are liable to be rejected. Rights of cancellation of selection/admission lie with the selection committee of the Bhavana. Visva-Bharati remains closed on Tuesday afternoon and Wednesday (Weekly holiday).

DAYALBAGH EDUCATIONAL INSTITUTE

(Deemed University)

DAYAL BAGH, AGRA-282005

Applications are invited in the prescribed form for the following posts:

1. **READERS** (Rs. 3700-5700)
    - a. Electrical Engineering – One
    - b. Commerce/Management – One
    - c. Economics – One
    - d. Education – One
2. **LECTURERS** (Rs.2200-4000) :
    - a. Electrical Engineering – Two
    - b. Mechanical Engineering – One
    - c. Computer Science & Applications – Two (One Permanent; one leave vacancy for 2 years)
    - d. Physics – One
    - e. Home Science – Two
    - f. Rural Development – One
    - g. Education - Six (with specialisation at Master's level in Commerce/Economics/English/Home Science/Mathematics/Political Science.)
3. **System Engineer** (Computer Centre) (Rs.3000-4500) – One
4. **Programmer** (Rs.2200-4000) – One
5. **Lecturer in Physics** (Rs.2200-4000) (For DEI Technical College) – One
6. **Teaching Assistants** – One each in Mechanical/Electrical Engineering (Rs.1000/- fixed for graduates or Rs.1100/- fixed for postgraduates in Engineering)

NOTE

1. The approx. total monthly emoluments at the beginning of the scale for Reader shall be Rs.6,085, Lecturer Rs.3,722, System Engineer Rs.5,130 Programmer Rs.3722.
2. Prescribed application form alongwith details of specialisation and qualifications can be had from the Office of the REGISTRAR of the Institute on payment of Rs.15/- for posts at S. Nos. 1 to 5 and for other Rs.10/- by cash at counter or by sending a bank draft accompanied by a self-addressed and stamped envelope of size 22x10cm with stamps worth Rs.2/- for ordinary post or Rs.8/- for Registered Post.
3. Applications complete in all respects alongwith enclosures and registration fee of Rs.25/- for post at Sl.Nos. 1 to 5 and for other post Rs.10/- must reach the Registrar latest by **20th March 1992.**
4. All payments may be made either in cash at counter or by bank draft in favour of DAYALBAGH EDUCATIONAL INSTITUTE payable at AGRA.
5. Separate application be made for each post.
6. Superannuated persons are not eligible for employment.
7. Number of posts may vary depending on need.
8. SC/ST candidates will be given preference for all posts if otherwise found suitable.
9. In case applicants are not available or found suitable for permanent appointment, short term or temporary appointment may be made or an appointment offered in a lower level .
10. The Selection Committee may relax qualifications or condition of experience if candidates are otherwise found suitable.
11. Candidates are called for interview on the recommendations of the Screening Committee of the Institute and as such all candidates may not be called for interview.

REGISTRAR

ASSAM AGRICULTURAL UNIVERSITY
JORHAT-785013

ADVERTISEMENT NO. 1/92

Applications are invited in prescribed application form for the following posts in Disciplines as mentioned below :-

1. Posts in the rank of Professor (Pay Scales Rs. 4500-7300)-**Discipline** : Agronomy, Agricultural Economics, Extension Education (E.E.I.)

    Vety. Anatomy & Histology, Animal Physiology,

JAWAHARLAL NEHRU UNIVERSITY

OPENING FOR LIBRARIAN

Advt. No. A&E-II/1/92

JNU has opening for the assignment of Librarian to head its fast expanding Central Library and its allied systems with a total collection of four lakh volumes of books and periodicals. The library subscribes to over 2,500 national and international journals in a large number of doctoral research in a number of inter-disciplinary areas with a faculty size of over 400 disciplines, besides catering to more than 2,500 scholars actively engaged in doctoral/post-representing large number of disciplines.

The library has embarked upon Automation and Computerisation plans and has acquired HP Micro 3000 XE computer. It has also created database on books, journals, articles and press clippings.

THE ESSENTIAL QUALIFICATIONS for the assignment being:

1. Master's degree in Library Science/Information Science/Documentation with at least fifty five per cent marks or its equivalent grade and a consistently good academic record;
2. One year specialisation in an area of Information Technology/Archives and Manuscript keeping Master's Degree in an area of thrust in the university;
3. At least ten years' experience as a Deputy Librarian in a University Library or fifteen years' experience as a College Librarian and;
4. Evidence of innovative Library service and organisation of published work.

DESIRABLE: Research Degree in Library Science/Information Science/Documentation/Archives and Manuscript keeping as well as expertise and experience in Computer Applications and Modern Management Techniques in relation to Library System and Information Technology.

SCALE OF PAY: Rs. 4500-150-5700-200-7300.

The incumbent will be entitled to retirement benefits in accordance with the University rules. Persons already in employment should route their applications through proper channel. Any of the qualifications may be relaxed on the recommendations of the selection committee and at the discretion of the University in case of candidate otherwise found highly suitable and professionally competent. The University may also consider the names of suitable candidates who may not have applied for the post.

Application forms may be obtained free of cost in person or by sending a self-addresed envelope (23cmx10cm) duly stamped of the value of Re.1/- to the **Deputy Registrar (Acad. & Estt.-II), Room NO. 131, Administrative Block (New Campus), Jawaharlal Nehru University, New Delhi-110067.** The applications in the prescribed form complete in all respect should reach this University latest by **10th March, 1992.**

Vety. Pathology, Vety. Pharmacology & Toxicology,

Vety. Parasitology, Vety. Gynaecology.

2. Chief Scientist in the rank of Professor, Faculty of Agriculture, (Pay scales Rs. 4500-7300).

3. Chief Training Organiser in the rank of Professor, Faculty of Agriculture, (Pay scales Rs. 4500-7300).

4. Posts in the rank of Associate Professor (Pay scales Rs. 3700- 5700).

Discipline : Agronomy, Plant Breeding & Genetics, Soil Science, Plant Pathology, Entomology, Agricultural Economics, Bio-Chemistry, Extension Education(Agri.).

Animal Production & Management, Vety. Anatomy & Histology, Vety. Surgery & Radiology, Vety. Medicine, Animal Genetics & Breeding, Animal Nutrition, Extension Education(Vety.),

5. Posts in the rank of Asstt. Professor (Pay scales Rs. 2200- 4000).

Discipline : Agronomy, Plant Breeding & Gnetics, Soil Science, Plant Pathology, Entomology, Extension Education (Agri), Bio- Chemistry, Agril. Engineering, Animal Husbandry & Diary (Gynaecology).

Animal Production & Management, Vety. Anatomy & Histology, Animal Physiology, Vety. Pathology, Vety. harmaology & Toxicology, Vety. Surgery & Radiology, Vety. Medicine, Vety. Parasitology, Animal Genetics & Breeding, Animal Nutrition, Extension Education (Vety.), Vety. Microbiology, Poultry Science.

6. Posts in the rank of Asstt. Professor (Pay scales Rs.2200- 4000).

Discipline : Chemistry with Specialisation in Organic/Physical Chemistry.

7. Posts in the rank of Asstt. Professor (Pay scales Rs.2200- 4000).

Discipline : Chemistry with Specialisation in Organic/Physical Chemistry.

7. Posts in the rank of Asstt. Professor (Pay scales Rs. 2200- 4000).

Discipline : Physical Education (For college of Fisheries).

8. Posts in the rank of Asstt. Professor (Pay scales Rs. 2200- 4000).

Discipline : Child Development (For college of Home Science).

9. Training Assistant in the rank of Asstt. Professor, (Pay scales : Rs. 2200-4000)

Discipline : Home Science (Open).

All posts carry allowances as admissible under the University rules. Prescribed application forms and other details regarding qualifications, experience etc. required for the posts may be had by sending self-addressed Rs. 3/- stamped envelope of the size of 23 X 10 cm. from the undersigned. The last date of receiving applications complete in all respects is **10th March' 92** The applications of employed candidates must come through proper channel within the last date. Applications which are incomplete, not in prescribed forms and received after expiry of the last date shall not be entertained.

L. Dutta
REGISTRAR

OSMANIA UNIVERSITY
HYDERABAD - 500007 (A.P)

Advertisement No. 1/92 NT **Dt.10th Feb 1992**

(Limited Recruitment) SC/ST only

Applications in the prescribed form together with the Registration Fee of Rs. 5/- payable through I.P.O./Demand Draft only (M.O is not acceptable) drawn in favour of the Registrar, Osmania University, Hyderabad-500 007 are invited from the candidates belonging to Scheduled Castes and Scheduled Tribes category only for the post of LAB ASSISTANT in the University service, so as to reach the undersigned in person or by post on or before **9th March, 1992**.

Qualifications: "B.Sc with Chemistry as one of the optional subject".

Pay scale: Rs. 1330-60-1930-70-2630

Age : Not above 39 (34 +5) years as on last date of receipt of applications.

Note : Age limit does not apply to the employees of this University.

Application forms can be had from the Director, Department of University Press and Publications on payment of Rs. 5/- by person or by sending a self-addressed envelope of $14\frac{1}{2}$ x $26\frac{1}{2}$ Cms. together with I.P.O./Demand Draft including postal charges made payable to the Director.

REGISTRAR

G.B.PANT UNIVERSITY OF AGRICULTURE & TECHNOLOGY
PANTNAGAR - 263 145
ADMISSION NOTICE 1992-93

A Competitive Entrance Examination for admission to the first year of the following academic programmes will be held on Sunday, the 24th May, 1992, from 10.00 a.m. at Agra, Allahabad, Almora, Bareilly, Dehradun, Ghaziabad, Gorakhpur, Jhansi, Kanpur, Lucknow, Muzaffar Nagar, Pantnagar and Varanasi Centres.

I. Undergraduate Programmes in Agriculture, Veterinary Sc., Forestry, Fisheries Science and Home Science. Eligibility: Intermediate: Science/Agriculture or equivalent.

Maximum Age: 23 Years as on 30.11.1992 for all Categories but 25 years for Scheduled Castes/Scheduled Tribes and Backward Class Categories.

II. Postgraduate Programmes in 40 Majors in the areas of Agriculture, Veterinary Science, Engineering, Basic Science, Food Science, Home Science. Eligibility: 55% marks in aggregate or equivalent in the relevant degree examination with not more than one third division at High School and Intermediate levels.

III. Ph.D programmes in 29 Majors in the areas of Agriculture, Veterinary Science, Engineering, Food Science and Basic Science. Eligibility: Master's degree in the relevant area in First Division/4.00 out of 5.00 GPA, with not more than one third division at High School and Intermediate levels and at least 2nd division at B.Sc.

For details, Information Brochure and Application form can be obtained by sending an account payee Bank Draft for 15/- in favour of Pre-Entrance examination Cell Revolving Fund Account, G.B. Pant University of Agriculture & Technology' on State Bank of India or United Commercial Bank, Pantnagar Branch, with a self-addressed envelope of 10" x 12" size bearing postage stamp of Rs.6/- or on cash payment at the Counter in the Admission Cell at Pantnagar on any working day.

Closing dates: **4.4.1992**, prescribed fee Rs.100
15.4.1992, additional late fee of Rs.50
(Only Pantnagar Centre permitted)

APPLICATION FORMS WILL BE AVAILABLE FROM **15th February, 1992.**

Dr. S.K.Sharma
REGISTRAR & COORDINATOR (Admissions)

PANTNAGAR ANNOUNCES
ALL INDIA FARMERS' FAIR & AGRO-INDUS. EXHIBITION
MARCH 7-10, 1992

Office of the Registrar: Gauhati University: Gauhati - 14

Personnel Department

(Establishment Branch)

Advertisement No. TCR/1/92

Applications in the Standard form prescribed below are invited from eligible candidates for the following permanent posts in the Teaching Departments and two part-time posts of Lecturers in the University Law College at Sl.No. 7.

1. DEPARTMENT OF APPLIED BOTANY & BIOTECHNOLOGY :

a) Professor - 1 post, Specialisation : Open

b) Reader - 1 post, Specialisation: Molecular Genetics/Recombiner DNA technique/Microbial Genetics.

Candidates with M.Sc. in Agri-Botany/Agriculture/Botany with any one of the above Specialisation may also apply.

2. DEPARTMENT OF HISTORY :

Lecturer - 1 post, Specialisation: Medieval India.

3. DEPARTMENT OF BENGALI :

Lecturer - 1 post, Specialisation: Vaisnave Literature or Post Tagorean Literature.

4. DEPARTMENT OF FOREIGN LANGUAGES:

Lecturer in French - 1 post.

5. DEPARTMENT OF COMPUTER SCIENCE :

Lecturer - 1 post - Open.

E.Q. : Master's degree in Computer Science or in Allied subjects with a Postgraduate Degree or Diploma in Computer Science from a recognised Institution.

6. DEPARTMENT OF POLITICAL SCIENCE:

Professor - 1 post - Specialisation - Open.

7. UNIVERSITY LAW COLLEGE :

Lecture (Part-time) - 2 posts.

Scale of Pay :

Professor : Rs. 4500-150-5700-200-7300.

Reader : Rs. 3700-125-4950-150-5700.

Lecturer : Rs. 2200-75-2800-100-4000.

Lecturer(Part-time) : 1500/- p.m. (Consolidated).

ESSENTIAL QUALIFICATIONS :

Professor: An eminent scholar with published work of high quality actively engaged in research. Ten years' experience of teaching and/or research. Experience of guiding research at Doctoral level.

OR

An outstanding scholar with established reputation who has made significant contribution to knowledge.

Reader: Good academic record with a doctoral degree in the relevant subject or equivalent published work. Evidence of being actively engaged in (i) research or (ii) innovation in teaching methods or (iii) production of teaching materials.

About five years' experience of teaching and or research provided that atleast three of these years were as Lecturer or in an equivalent position. This condition may be relaxed in the case of candidates with outstanding research work.

Lecturer: (a) A Doctorate degree or research work of an equally high standard, and (b) Masters' Degree with good academic record with at least 55% marks or its equivalent grade in the subject from an Indian University or an equivalent degree from a foreign University. Having regard to the need for developing interdisciplinary programmes, the degrees in (a) and (b) above may be in relevant subject. Provided further that if a candidate possessing a Doctorate degree or equivalent research work is not available or is not considered suitable, a person possessing a good academic record with at least 55% marks and its equivalent grade at the Master's degree level (weightage being given to M.Phil or equivalent degree or research work of quality) may be appointed provided he/she has done research work for atleast two years or has practical experience in a research Laboratory/Organisation on the condition that he/she will have to obtain a Doctorate degree or give evidence of research of high standard within a reasonable time. UGC norms shall be applicable in all cases of appointment and career advancement.

Alternative Qualification for post at Sl.No. 4 :

M.A. in French from any recognised University of repute, Or, Master's degree in any subject from any recognised University of repute plus a diploma from any of the Alliances Francaises in India.

Procedure of Submission Of Applications :

Application in prescribed form mentioned below in 7 (seven) copies together with an application fee of Rs. 20/- (Rupees twenty) and Rs. 10/- (Rupees ten) in case of Scheduled Caste/Scheduled Tribe candidates only by "Crossed Bank Draft" drawn in favour of Gauhati University, Guwahati-14 in an inner sealed cover superscribed application for post of (Name of the post applied for with Sl.No. and Sub-Sl.No., if necessary), Advertisement No. TCR/1/92 enclosed in an outer cover addressed to the Registrar, Gauhati University, Guwahati-14. The application fee as stated above may also be deposited in the University Cash counter during office hours.

LAST DATE OF RECEIPT OF APPLICATIONS :

Applications will be received up to 10.3.92 only. Applications received after the last date of submission and not submitted in prescribed form as given below in 7 (seven) copies will not be entertained. Copies of Certificates and Marksheets must be attached with each copy of application.

No. of this advertisement and name of the post along with Department and the Serial No. and Sub-serial No. of post must be referred to in the application.

Persons in employment should apply with a no objection certificate from the present employer.

INTERVIEW : Candidates will be required to appear at an interview if and when called for at their own cost.

Canvassing directly or indirectly will be a disqualification.

Dr. M.C. Bhuyan
REGISTRAR

PRESCRIBED FORM FOR APPLICATIONS :

1. Advertisement No. :
2. Serial No. & Sub-serial No. of the post in the Advertisement :
3. Name of the post and Deptt. applied for. :
4. Name of the applicant in full (in block letters) :
5. Father' name in full :
6. Home address in full :
7. Present address for communication :
8. Date of Birth by Christian era :
9. Age on 1.1.92 :
10. Nationality :
11. Community (ST, S/C, Certificate to be produced) :
12. Educational Qualification :

Examination passed (Strike out which is not applicable	Div./ Class	Name of Board/ University.	Yr. of passing	P.C.of Marks	Rank if any
1	2	3	4	5	6
H.S.L.C.					
H.S./P.U.					
B.A/B.Sc/B.Com/LL.B.					
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M.Phil/M.Litt.					
Ph.D./D.Litt					
Others					

Specialisation in Master's Degree :
Title of Ph.D. dissertation :

N.B. : Attested copies of marksheets and certificates of all examinations passed should be enclosed with each copy of application.

13. Past experience, if any (give details) :
14. Research publications (give details in separate sheets of papers, use separate sheets if necessary):
15. Present Occupation, if any (give details) :
16. Name of employer (if employed) :
17. Name & Address of the Ph.D. Guide, if any :
18. Name of two referees (not related to candidate) :

Application fee of Rs. ---- vide Bank Draft/University Challan No. ---- dated ---- is enclosed.

I beg to certify that the particulars furnished above are true in all respects. I shall be liable to action at any time if found otherwise.

Date: Signature of the applicant.

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Agricultural Scientists Recruitment Board

Krishi Anusandhan Bhavan, Pusa, New Delhi-110012

Advt. No. 1/92

Applications are invited for the following Scientific/Technical posts under the different Institutes and at the Headquarters of the Indian Council of Agricultural Research.

1. **Director, National Centre for Mushroom Research and Training, Solan** (One post). Pay Scale : Rs. 4500-7300. **Age : Below 50 years.** Qualifications Essential : (i) An eminent Scientist with published work of high quality and actively engaged in research/teaching/extension education in mushrooms. (ii) Good academic record with a doctoral degree in Mycology/Plant Pathology/Microbiology. (iii) 15 years' experience (excluding the period spent in obtaining the Ph.D. degree subject to a maximum of 3 years) of research/teaching/extension education in Mushroom Improvement/Production Technology, out of which at least 5 years should be as a Principal Scientist or in an equivalent grade. (iv) , Evidence of substantial contribution to research and scholarship as evidenced by variety product or technology developed or adopted as result of research; the quality of publication of papers in professional journals of repute; approved recommendations emanating from research or innovations in teaching/educational technology. (v) Specialisation and experience of research in Mushroom improvement/culture mushroom production technology or disease and insect pest management of Mushroom/edible Fungi.

2. **Director, National Research Centre on Cashew, Puttur.** (One post). Pay Scale : Rs. 4500-7300. Age : Below 50 years. Qualifications Essential (i) An eminent Scientist with published work of high quality and actively engaged in research/teaching/extension education. (ii) Good academic record with Doctorate in any branch of Agricultural Sciences. (iii) 15 years' experience (excluding the period spent in obtaining the Ph.D. degree subject to a maximum of 3 years) of research/teaching/extension education in Horticulture/Plantation Crops out of which at least 5 years should be as Principal Scientist or in an equivalent grade. (iv) As in Item No. 1(iv) above. (v) Specialisation and experience of research in Plantation Crops, Tree Crops and/or Horticultural Crops.

3. **Director, Central Inland Capture Fisheries Research Institute, Barrackpore.** (One post) Pay Scale : Rs. 4500-7300. Age : Below 50 years. Qualifications Essential : (i) As in Item No. 2 (i) above. (ii) Good academic record with a doctoral degree in fish and fisheries science or a related subject. (iii) 15 years' experience (excluding the period spent in obtaining the Ph.D degree subject to a maximum of 3 years) of research/teaching/extension education, out of which at least 5 years should be as a Principal Scientist or in an equivalent grade. (iv) As in Item No. 1(iv) above. (v) Specialisation and experience in population dynamics of fishes in riverine, lacustrine and esturine resources.

4. **Assistant Director General (Agril. Economics, Statistics & Marketing), ICAR Headquarters, New Delhi** (One post). Pay Scale : Rs. 4500-7300. Below 50 years. Qualifications Essential : (i) As in Item No. 2(i) above. (ii) Good academic record with a doctoral degree in Agricultural Economics/Agricultural Statistics or any other related discipline. (iii) As in Item No. 3(iii) above. (iv) As in Item No. 1(iv) above. (v) Specialisation and experience in Agricultural Economics, statistics and marketing research.

5. **Assistant Director General (Plan Implementation and Monitoring), ICAR Headquarters, New Delhi** (One post). Pay Scale : Rs. 4500-7300 Age : Below 50 years. Qualifications Essential : (i) As in Item No 2(i) above. (ii) Good academic record with a doctoral degree in any branch of Agricultural & allied science. (iii) As in Item No. 3(iii) above. (iv) As in Item No. 1(iv) above. (v) Experience in coordination, monitoring & evaluation of Agricultural Research Projects.

6. **Assistant Director General (Oilseeds and Pulses) at ICAR Headquarters, New Delhi.** (One post). Pay Scale : Rs. 4500-7300 Age : Below 50 years. Qualifications Essential : (i) As in Item No. 2(i) branch of Plant Sciences (iii) As in Item No. 3(iii) above. (iv) As in Item No. 1(iv) above (v) Specialisation and experience of research in the field of oilseeds and/or pulses.

7. **Project Director (Water Technology Centre) I.A.R.I., New Delhi.** (One post). Pay Scale : Rs. 4500-7300 Age : Below 50 years. Qualifications Essential : (i) As in Item No. 2(i) above. (ii) Good academic record with doctoral degree in Agronomy or soil Science or Agricultural Engineering (iii) As in Item No. 1(iv) above. (iv) As in Item No. 3(iii) above. (v) Specialisation in Soil Testing and Water Conservation and experience of research in Agricultural water management.

8. **Joint Director, IASRI, New Delhi.** (One post). Pay Scale : Rs.4500-7300. Age : Below 50 years. Qualifications Essential : (i) As in Item No. 2(i) above. (ii) Good academic record with a doctoral degree in Agricultural Statistics/Statistics with training/specialisation in Computing Sciences, or Doctorate in any field related to computer sciences. (iii) 13 years' experience (excluding the period spent in obtaining the Ph. D degree subject to a maximum of 3 years) of research/teaching/extension education, out of which at least 3 years, should be as a Principal Scientist or in an equivalent grade. (iv) As in Item No. 1(iv) above. (v) Specialisation and relevant experience in the field of research and teaching in Computer Science.

9. **Project Coordinator (Process Engineering), Indian Institute of Sugarcane Research, Lucknow.** (One post). Pay Scale : Rs. 4500-7300. Age : Below 50 years. Qualifications Essential : (i) As in Item No. 2(i) above. (ii) Good academic record with a doctoral degree in Agricultural Engineering or in any related subject. (iii) As in Item No. 8(iii) above. (iv) As in Item No. 1(iv) above. (v) Specialisation and experience in the field of Processing/Post Harvest technology.

10. **Project Coordinator (Epidemiological Studies on F.M.D.) Indian Veterinary Research Institute, Izatnagar,** (One post). Pay Scale : 4500-7300. Age : Below 50 years. Qualifications Essential : (i) As in Item No.2(i) above. (ii) Good academic record with a doctoral degree in Veterinary Virology/Pathology/Epidemiology/Immunology. (iii) As in Item No. 8(iii) above. (iv) As in Item No. 1(iv) above. (v) Specialisation in Epidemiological Studies on F.M.D.

11. **Project Coordinator (Rapeseed and Mustard), Directorate of Oil Seeds Research, Hyderabad.** (One post). Pay Scale : Rs. 4500-7300, Age : Below 50 years. Qualifications Essential : (i) As in Item No. 2(i) above. (ii) Good academic record with a doctoral degree in any branch of Agricultural Sciences. (iii) As in Item No. 8(iii) above. (iv) As in Item No. 1(iv) above. (v) Specialisation in and experience of research on oilseeds crops particularly Rapeseed and Mustard.

12. **Project Coordinator (Cotton), Central Institute for Cotton Research, Nagpur, (For Regional Station, Coimbatore),** (One post). Pay Scale : Rs. 4500-7300. Age : Below 50 years. Qualifications Essential (i) As in Item No. 2(i) above. (ii) Good academic record with doctoral degree in any discipline relevant to crop science. (iii) As in Item No. 8(iii) above. (iv) As in Item No. 1 (iv) above. (v) Specialisation and experience in the field of cotton research/cotton improvement project.

13. **Project Coordinator (AICRP Buffaloes), at CIRB (Sub-Campus Nabha, Main Campus, Hissar.** (One post). Pay Scale : Rs. 4500-7300. Age : Below 50 years. Qualifications Essential : (i) As in Item No. 2(i) above (ii) Good academic record with a doctoral degree in Animal Genetic and Breeding. (iii) As in Item No. 8(iii) above. (iv) As in Item No. 1(iv) above. (v) Five years' experience of managing large herd cattle/Buffaloes.

14. **Zonal Coordinator, Bidhan Chandra Krishi Vishva Vidyalya, Kalyani.** (One post). Pay Scale : Rs. 4500-7300. Age : Below 50 years. Qualifications Essential : (i) As in Item No. 2(i) above. (ii) As in Item No. 11(ii) above. (iii) As in Item No. 8(iii) above. (iv) Evidence of substantial contribution to research or education or extension and scholarship as evidenced by variety product or technol-

cation of papers in professional journals of repute; approved recommendations emanating from research or innovations in teaching/educational extension. (v) Specialisation and experience in agricultural extension, training and development.

15. Zonal Coordinator (Lab to Land), ICAR Research Complex for N.E.H. Region, Shillong. (One post). Pay Scale : Rs. 4500-7300. Age. Below 50 years. Qualifications Essential : (i) As in Item No. 2(i) above. (ii) As in Item No. 11(ii) above. (iii)As in Item No.8(iii) above. (iv) As in Item No. 14(iv) above. (v) As in Item No. 14(v) above.

16. Sr. Engineer (T-9), Indian Veterinary Research Institute, Izatnagar. (One post). Pay Scale : 3700-5000. Age : Below 50 years. Qualifications Essential : (i)* 3 years Diploma/Bachelor's Degree in Mechanical Refrigeration Chemical Engineering OR equivalent qualifications in the relevant field. However, degree holders will be preferred. (In fields where the duration of diploma courses available in the country is only 2 years, the minimum qualifications will be 2 years Diploma instead of 3 years Diploma). (ii) 5 years' experience in Mechanical Engineering.

IMPORTANT NOTES : (I) Explanation for the purpose of qualifications in respect of Scientific Posts at S.Nos. 1 to 15 above. "An ARS Scientist inducted/recruited in a particular discipline shall be deemed to have acquired requisite qualifications in the relevant subject." (ii) In respect of posts appearing at S.Nos. 1,2,6,7,12,13 & 15 the candidature of ICAR Scientists who were holding S-2 and S-3 positions as on 31.12.85 will also be considered on the basis of criteria of old qualifications as applicable to these posts prior to 1.1.86.

CLOSING DATE FOR RECEIPT OF APPLICATIONS IN AGRICULTURAL SCIENTISTS RECRUITMENT BOARD OFFICE IS **8th APRIL 1992.**

(For candidates from abroad and in the Andaman and Nicobar Island, Lakshadweep, Minicoy and Amindivi Islands, State/Union Territories in the North Eastern Region, Ladakh Division of J & K State, Sikkim, Pungi Sub-division of Chamba, Lahul & Spiti districts of Himachal Pradesh, last date will be 22.4.1992.

GENERAL INSTRUCTIONS : 1. For application forms, please write to the Secretary, AGRICULTURAL SCIENTISTS RECRUITMENT BOARD, KRISHI ANUSANDHAN BHAVAN, PUSA, NEW DELHI - 110012. Request for forms must specify Advertisement No. 1/92, Name of the post and Item No. and should be accompanied by a self-addressed unstamped envelop (23 x 10 cms. size). 2. Separate applications, with separate fee is required for each post. 3. Application forms complete in all resources should reach office of the ASRB together with the application fee of Rs. 8/- (No fee for SC/ST candidates) in the form of crossed Indian Postal Order drawn in favour of the Secretary, INDIAN COUNCIL OF AGRICULTURAL RESEARCH by the closing date. Applications received after the closing date will not be entertained. IN CASE A CANDIDATE ANTICIPATES DELAY IN FORWARDING OF HIS APPLICATION THROUGH PROPER CHANNEL, HE MUST SEND AN ADVANCE COPY OF THE APPLICATION ALONGWITH THE FEE WHICH MUST REACH THIS OFFICE ON OR BEFORE THE CLOSING DATE. 4. Candidates abroad may apply in plain paper and send their applications together with an International Postal Order/Bank Draft covering the application fee drawn in favour of the SECRETARY, INDIAN COUNCIL OF AGRICULTURAL RESEARCH, so as to reach the office of the ASRB by the closing date. In countries where regular commercial channels are not available the candidate can deposit the application fee in local currency with the Indian Missions./Posts abroad, who in turn will issue on R.B.I. draft in favour of SECRETARY, ICAR, NEW DELHI-5. Only the candidates belonging the SC/ST would be considered against the respective reserved posts. As such, General candidates NEED NOT APPLY against the reserved posts. 6. Crucial date for determination the age limit for candidates for each post will be the closing date for receipt of applications from candidates in India. There will be no maximum age limit for ICAR Employees. Relaxation in age is allowed to SC/ST persons to the extent permissible under the rules. 7. The prescribed Essential Qualifications are minimum and possessing of same does not entitle candidates to be called for interview. Where the number of applicants is large, the Board may restrict the number of candidates for Interview to a reasonable limit on the basis of qualifications and experience higher than the minimum prescribed in the Advertisement. 8. For all Technical posts and other Non-Scientific positions, a screening test may be conducted by the Board, to be followed by an interview. 9. T.A. Contributions will be admissible for those called for interview as per ICAR Rules. 10. If required, candidates must appear for personal interview. 11. Higher Initial pay may be recommended by the ASRB for specially qualified and experienced candidates for all the posts.

davp 91/655

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University News

MONDAY, MARCH 2, 1992

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SCHOOL OF PLANNING AND ARCHITECTURE
TENTH CONVOCATION
21st FEBRUARY-1992

Shri Arjun Singh, Union Minister for Human Resource Development, delivering the convocation address at the School of Planning and Architecture. Seated on his right are Prof. E.F.N. Ribeiro, Director and Prof. A.K. Maitra, Dean of Studies of the School.

INDIAN COUNCIL OF MEDICAL RESEARCH

Applications are invited upto 30th March, 1992 for the following posts at the Council's Institutes/Centres :-

A) AT THE MALARIA RESEARCH CENTRE, DELHI

Deputy Director - One post : (Scale of pay of Rs. 4500-150-5700) **Qualifications & Experience : Essential** : a) MBBS with 12 yrs. research/teaching experience in Social & Preventive Medicine **OR** 10 Yrs. experience in research in case of candidates possessing M.D./ Ph. D. c) Original work as evidenced by publications. **Desirable** : Training in Malaria, Filaria experience control research in vector borne diseases. **Job Requirements** : The incumbent would be required to (i) carryout field investigations of malaria endemics in different parts of the country. (ii) study the epidemiological profile and distribution of malaria. (iii) help in malariogenic stratification. (iv) research on chemotherapeutic and parasitological aspects of malaria. (v) develop evaluation systems of malaria control strategies with different methods of control. (vi) participate in teaching programmes and (vii) any other duty assigned by the Director.

B) AT THE REGIONAL MEDICAL RESEARCH CENTRE FOR TRIBALS, JABALPUR

1) Deputy Director - One post : (Scale of pay of Rs. 4500-150-5700) **Qualifications & Experience : Essential** : MBBS with 12 yrs. research/teaching experience in Medicine/ Microbiology/ Pathology/ Community Medicine (10 Yrs. research/teaching experience for candidates possessing M.D. in the relevant field. Original work as evidenced by publications. **Job Requirements** : a) To participate in planning and implementation of research in the field of Community Medicine, Pathology, Microbiology and Genetics with particular emphasis to delivery of health care services to tribals, survey to detect health problems, formulate operational interventions and action oriented research. b) Multicentric disciplinary studies as well as collaborative studies at the institutional State and National levels in various aspects of tribal health.

2)Assistant Director -One post : (Scale of pay of Rs. 3700-125-4700-150-5000)

Qualifications & Experience: Essential :MBBS with 12 yrs. research /teaching experience in Medicine/Microbiology/ Community Medicine (10Yrs. research/teaching experience for candidates possessing M.D. in the relevant field). Original work as evidenced by publications. **Job Requirements** : a) To participate in planning and implementation of research in the fields of Community Medicine, Pathology, Microbiology and Genetics with particular emphasis to delivery of health care services to the tribals, survey to detect health problems, formulate operational interventions and action oriented research. b) Multicentric disciplinary studies as well as collaborative studies at the institutional, State and National levels in various aspects of tribals health.

3. Senior Research Officers - Two posts (Scale of pay of Rs. 3000-100-3500-125-4500)

Post No. I - Qualifications & Experience : Essential : MBBS/1st class M.Sc. with 6 yrs. research/teaching experience in Pathology/ Microbiology/Medicine (2 yrs. research in teaching experience for candidates possessing M.D./Ph.D. in the relevant field).

Post No. II - Qualifications & Experience : Essential : MBBS/1st class M.Sc. with 6 yrs. research/teaching experience in Anthropology or Chemistry or Bio-chemistry and working experience in Genetic/ Hematology/Medicine/Paediatrics/Community Medicine (2 yrs. research/teaching experience for candidates possessing M.D/Ph.D. in the relevant field). **Job Requirements** : For Post Nos. I & II - To participate in planning and implementation of research in the field of tribal health. Multicentric disciplinary studies as well as collaborative studies at the institutional State and National levels in various aspects of tribal health.

C) AT.THE RAJENDRA MEMORIAL REASEARCH INSTITUTE OF MEDICAL SCIENCES, PATNA -

Assistant Director (Epidemiology) - One post (Scale of pay of Rs. 3700-125-4700-150-5000)

Qualifications & Experience : Essential : MBBS with 12 yrs. research/teaching experience in the field of Parasitic Diseases of public health importance or M.D. in (PSM)/Medicine/Epidemiology with 10 yrs. experience. **Desirable** : Experience in Epidemiological studies in parasitic diseases especially leishmaniasis. **Job Requirements** : The incumbent is required to plan, carryout, analyses and report, epidemiological research studies in leishmaniasis.

D) AT THE INSTITUTE OF IMMUNOHAEMATOLOGY, BOMBAY

Assistant Director - One post : (Scale of pay of Rs. 3700-125-4700-150-5000)

Qualifications & Experience: Essential : a)MBBS/1ST Class M.Sc. in Biological Sciences Viz. Biochemistry/ Microbiology/ Biotechnology. b) 12 yrs. research/teaching experience in subject,of specialisation as applicable to immunoheaematology (10 yrs. research/teaching experience for candidates possessing M.D. or Ph.D.). c) Original work as evidenced by publications.

Job Requirements : The incumbent is expected to plan, execute and monitor researches in transfusion medicine and immunohaematology.

E) AT THE INSTITUTE OF CYTOLOGY & PREVENTIVE ONCOLOGY, NEW DELHI -

Senior Research Officer (Cytopathology) - One Post (Scale of Pay of Rs. 3000-100-3500-125-4500)

Qualifications & Experience : Essential : a) MBBS with 6 yrs. research/teaching experience in Pathology **OR** M.D. in Pathology with 2 yrs. experience in clinical and diagnostic cytology. **Job Requirements** : To undertake Cytopathology work both for expoliative and aspiration cytology. To assist in the planning and conduct of research and training programmes at the Institute.

F) AT THE NATIONAL INSTITUTE OF OCCUPATIONAL HEALTH, AHMEDABAD - Senior Research Officer (Medical) - One post

(Scale of pay of Rs. 3000-100-3500-125-4500)

Qualifications & Experience : Essential : a) MBBS with 6 yrs. research/teaching experience in undertaking health surveillance studies. **Desirable** : Diploma in Industrial Health **OR** 2 yrs. experience in research/teaching in case of candidates possessing M.D. (Medicine/ P.S.M.). b) Original research work as evidenced by publications. **Job Requirements** : To plan and undertake the health monitoring studies in working population and the community.

G) AT THE REGIONAL OCCUPATIONAL HEALTH CENTRE (NIOH), CALCUTTA -

Senior Research Office (Hygiene) - One post (Scale of pay of Rs. 3000-100-3500-125-4500)

Qualifications & Experience : Essential : a) 1st class M.Sc. in Environmental Science/Chemistry/Bio-Chemistry/Physics **OR** equivalent with 6 yrs. research experience in monitoring of work environment OR 2 yrs. research experience in case of candidates possessing Ph.D. b) Original research work as evidenced by publications. **Job Requirements** : Planning and conducting studies in the field of environmental hygiene. Analysis of dust and other pollutants in the work environment. The candidate should have experience in handling modern analytical equipments like HPLC, GLC and AAS etc.

H) AT THE REGIONAL OCCUPATIONAL HEALTH CENTRE (NIOH), BANGALORE

Senior Research Officer (Pesticide Residue Analyst) - One post (Scale of pay of Rs. 3000-100-3500-125-4500)

Qualifications & Experience : Essential : a) 1st class M.Sc. in Chemistry/Agricultural Chemistry or equivalent with 6 yrs. research experience in pesticide residue analysis work in biological samples of human being and experimental animals and food commodities. **OR** Ph.D. with 2 yrs. research experience. b) Original research work as evidenced by publications. **Job Requirements**: To Plan and carry out biological monitoring of pesticides in workers exposed to pesticides and evaluation of pesticidal pollution. The candidate should have experience of handling of HPLC, GLC and other analytical instruments.

Age: Below 50 yrs. for the posts of Deputy Director and below 45 yrs. for the posts of Assistant Director & Senior Research Officer. SC/ST candidates allowed relaxation in accordance with Govt. of India Rules. Allowances as per Central Government rules are admissible on the above pay scales. Benefits of pension admissible. Private practice is not allowed. However, NPA as per rules of the Council is admissible to medical graduates only.

Candidates called for interview for the posts of Deputy Director and Assistant Director will be paid 1st class rail fare and for the posts of Senior Research Officer will be paid 2nd class rail fare by shortest route, on production of documents.

Applications from employees working in Central/State Govt. Deptt./ Public Sector undertaking and Govt. funded research agencies must be forwarded through proper channel.

Application forms can be obtained from the office of the **Director General, Indian Council of Medical Research, Ansari Nagar, Post Box No. 4508, New Delhi-110 029.** Forms duly completed should be sent to the Director General, Indian Council of Medical Research, Ansari Nagar, Post Box No. 4508, New Delhi-110 029 with a crossed IPO for Rs. 8/- payable to the Director General, ICMR, New Delhi. SC/ ST candidates are exempted from this payment.

Incomplete and late application or without postal orders will not be entertained. The name of the post and of the Institute/Centre must be indicated in the Application Form.

Separate application form should be submitted for each post with crossed IPO for Rs 8/- and for each Institute/Centre.

UNIVERSITY NEWS

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Editor:
SUTINDER SINGH

EXPERIENTIAL LEARNING

Har Swarup Singh*

Experiential Learning, as an alternative route to acquiring knowledge, is increasingly gaining ground in the West. It has been incorporated in the educational policy planning of countries like the United States, Australia and Sweden. However, the concept has attracted little attention in India so far. This is due mainly to the lack of proper orientation and inadequate infrastucture of the education system — which happens to be formal, institution based, and authority centered. Although we talk about learner perspectives in learning, our educational programmes are not designed to accommodate the learner's desires, needs and capabilities. Furthermore, education does little to enable learners to operate effectively outside the confines of the educational institutions and to continue learning life long.

Learning and experience are inextricably connected and instruction methods and courses should be so designed that they bridge the gap between abstract theory and practice. Learning should aim at acquisition of competency-based knowledge and skills, with emphasis placed on stimulating the learner. Since, lately, impetus has been provided in many countries to life-long learning movement initiated by UNESCO, adult learning theories and findings in the field of feminist learning should also be incorporated in teaching methodologies and the designing of courses.

The programmes of economic and social development — and the many changes in economic policies initiated recently by the Government — require major infrastructural reforms in the field of education. As the Prime Minister recently stated, for India to be a successful democracy and to play a significant role in the new and changing world, the participatory approach, collaboration and consensus in problem solving is needed for national integration and all round progress. It is in this context that Experiential Learning can be extremely useful to us.

The basic premise of Experiential Learning is learning by doing — a direct interaction with the phenomena being studied. This contrasts with learning where someone else's observations, experiences and tested generalisations are used for acquiring knowledge and skills. Perception through interaction with the phenomena is a self-organising pattern just as in the case of the nervous system, and is fundamentally different from passive information assimilation system and tools of learning like language, mathematics, books, computers, etc that we have become used to.

Experiential Learning has gained accolades due primarily to the fact that it goes a long way towards redressing the balance between abstract learning and learning that is relevant, engaging and effective, and is based on a holistic approach. It can successfully meet the demand for specialised knowledge and skills, facilitate life long learning, and meet the needs of individualising or privatising learning. Experiential Learning vitalises cognitive development theories and adult learning experiences and research.

The Experiential concept is related to many older terms in education, such as discovery learning, life-long learning, fieldwork, clinical experience, etc. Tracing the history, the Experiential Learning movement in the West dates back to the mid twentieth century's various forms of off-campus experiences as radically innovative complements to classroom learning. John Dewey in 1939 in his seminal contribution gave momentum to the developing concept through insistence that there is an organic connection between education and personal experience. Dewey's approach galvanised with Kant's and Paul Valery's concepts of the 'Structure of Consciousness', of which the fundamental tenet is that mind is capable of realising its own potential in any interaction with the phenomenological world.

**Lieutenant Governor, Pondicherry. Formerly Vice-Chancellor of Haryana Agricultural University and Member, Planning Commission.*

What is important in Experiential Learning models of teaching and learning is the cognitive-emotional sensory structure which involves the whole person — not just cognition, but feeling, emotion and thought in any learning endeavour.

Two main themes can be identified in current research in the field of Experiential Learning: "pragmatic-institutional" and "individual-existential". Several approaches are discernible within the two themes, each with distinct implications for design facilitation and evaluation of learning.

Theme one : "Pragmitc -Institutional"

This theme focuses on the participation of the learner in acquiring or mastering concrete skills based on a sequence of learning events specified in advance by an institution. The available literature is naturally limited to degree/diploma/certificate granting institutions. The following are elaborations of this approach :

(a) *Learning by doing* — Examples are most types of apprenticeships, agricultural and industrial training programmes, modular instructional programmes, athletic and wilderness training, etc.

(b) *Sponsored or cooperative education* — Here the primary focus is on "sponsored", "cooperative" or "guided" education within a university programme in an off-campus setting, and close liaison between faculty and field supervisor is considered important for the purpose of designing the procedures and measuring the achievement under the set learning goals. Programmes of this type include pre-professional training practices and internships, career exploration, service-learning internships, field research, cross-cultural exposure and overseas learning experiences.

(c) *Credit for life experience* — Students enrolling in academic programmes who come from disadvantaged groups such as females/working classes can be benefited by validating their prior experience. This is being done by many U.S. institutions; in fact, the Council for Advancement of Experiential Learning (CAEL) has been conducting research in this area for nearly two decades.

Theme two : "Individual-Existential"

This field of inquiry values personal experiences as an important source of knowledge and places the seeker at the centre of the learning process. Truth is relative to each learner in his or her particular social context and teachers perform supportive or facilitative roles. The whole person (mind, body and emotions) is involved in the process of discovery in a variety of dimensions. Four different approaches have been evolved from this value base (*Rogers* 1969).

(a) *Learning how to learn* — Rapid socio-technological changes require continuous education and re-education. According to Tough (1971), 80 percent of the population is continually engaged in a series of learning endeavours of which only 20 percent are occurring in formal classes. Kidd (1973) helped our understanding of how this majority learns, and undertook ground-breaking work in revaluing Experiential Learning. Knowes (1975) has addressed the issue of facilitating self-directed learning for diverse types of learners.

(b) *Personal learning from everyday experience* — This approach views Experiential Learning as moving from concerns with outer- directed world experiences to inner-directed personal ones. "Experiential Learning involves becoming aware of the qualities, patterns, and consequences of one's own experience as one experiences it" (*Torbert* 1972). Torbert posits four levels of experiences as a basis for learning: (i) the world outside; (ii) a person's behaviour; (iii) a person's internal cognitive-emotional sensory structure; and (iv) a person's consciousness or intentional life aims. Each of these levels requires reflection, conceptualisation, and testing in new situations for learning to occur. Examples of this type are experiential therapies, for example Jungian and Gestalt, transcendental meditation, dream analysis, and diary/journal writing (*Torbert* 1972, *More* 1974).

(c) *Experiential social group processes* — A natural extension of learning from personal experience has been the development of a wide range of social skill training activities frequently referred to as laboratory or human relations training in T-groups (T for training) where the experience of the members in a relatively unstructured environment becomes data for personal and social learning. Experiential Learning groups ranging from management training to personal growth have spawned numerous educational innovations.

(d) *Experiential Learning in the classroom* — The group process movement has enriched classroom learning with a host of new inter-personal activities. Role plays, games and simulations, value exercises, and socio and psycho-skits engage learners in concrete experiences which, when processed, lead to cognitive as well as attitudinal and behavioral changes. Other activities include the use of audio-visual methods, art, drama, music, dance, and play. Critical in using these methods is the provision of adequate time for reflection and conceptualisation (*Coleman* 1976).

(e) *Experiential Learning for social and political action* – The national and international implications of helping individuals and groups learn from their own experience ("have their world") has been explored by Freire (1970) in his work in Africa and South America. In the post-colonial era, progress in poor countries depends on valuing the knowledge, skills and experiences of local population, as contrasted with education imposed by the dominant culture. Popular education programmes can develop skills based on collective experience in the hope that people will act upon and change oppressive structures – social, economic and others.

It is interesting that while the subject of Experiential Learning may have once implied an either/or dichotomy with traditional methods, educationists and researchers are increasingly learning to view these as parts of a whole. A model which illustrates this process (*Kolb* and *Fry* 1975) depicts learning as a four-stage cycle with each stage requiring different abilities and skills on the part of the learners. Stage (a) is a concrete personal experience which is followed by (b) observations and reflection of that experience. These reflections are connected with and reworked into stage (c) – abstract concepts and generalisations, which are then – in stage (d) – tested in new situations. In order for learning or change to take place, the four stages of the cycle must be integrated; for example, an experience which is not reflected upon or is not tested in actual practice, is lost as a potential learning source. The learner who proceeds through each of the phases of the cyclical model is not being encouraged to turn away from the store of accumulated knowledge in the literature or from that held by experts in the field. Rather, the learner is likely to use these resources in a purposeful, integrative and goal-directed manner. To this end Burch and Miller (1977) have developed an experiential teaching model which suggests the kinds and sequence of activities in which a teacher may engage to assist learners to reflect on their experiences and to generalise from them in an effective way. This model, again cyclic, comprises an input phase, followed by an activity which, in turn, leads to a processing phase and ends in generalisation.

Area of future research

Research into age, stage, and gender differences of the developing adult is already having important implications for the design of learning programmes. More attention is likely be focussed in the future on understanding more about the reflective process and the social nature of learning. Literacy education will increasingly utilise the life experiences of learners. The problem of assessment will demand further research as institutions and learners face the continuing challenge of measuring, and awarding credentials, for the endless variety of experiences which constitute learning. The "facipulator" (facilitator + manipulator) role of teachers needs to be highlighted in planning and facilitating Experiential Learning. Modular experiential courses ought to be developed for different educational settings as adults throughout the world demand greater access to learning which is relevant, effective and engaging.

Experiential Learning which has proved more helpful in the West in making learning competency-based could be used more for formulating alternate course design principles and deployment strategies in formal, non-formal and informal branches of education in our country. The feminist/woman-friendly teachings/findings could be used for liberalising curriculum and teaching methodologies. The systems of learning and teaching in the future should emphasize learner-oriented perspectives (development of human resource) to make education more relevant and useful in the tasks of national building.

The Third International Conference on Experiential Learning (ICEL-III)

This Conference on Experiential Learning is to be held in the historic city of Pondicherry during March 9-15, 1992. The theme is 'Anubhava' and 'Swadharma' (Experience and Self-actualisation) and the main topics of the Conference are :

1. Experiential Learning and educational policies :
    - approaches and innovations in formal, non-formal and informal systems of education;
    - adult literacy programmes.
2. Extension of scientific knowledge and technologies to various sections of society :
    - transfer of technology for economic development;
    - application of science for rural development and welfare.
3. Individual existential paradigm in holistic development :
    - self-actualisation and cultural and spiritual

development;

- Experiential Learning and psychotherapy.

4. Concept of Global Village, Experiential Learning and changing socio-cultural values.
5. Sustainable development, ecological balance and concern for environment.

The following experts are expected to give key-note addresses and/or also participate in leading the discussions in the various sessions/workshops : Prof. G. Ram Reddy, Chairman, UGC; Shri Jayant Patil, Member, Planning Commission; Dr Girija Vyas, Union Deputy Minister for Information and Broadcasting; Shri Anil Bordia, Secretary, Education Department, Government of India; Prof. S.K. Agrawala, Secretary, AIU; Dr Roger Roberts, Hawkesbury Agriculture College of the University of Western Sydney, Australia; Ms Ruth Cohen, School of Adult Vocational Education, University of Technology, Sydney, Australia; Dr Jane Henry, Institute of Educational Technology Open University, U.K.; and Dr. John Mulligan, Human Potential Resource Group, University of Surrey, U.K. In addition, a key role in the conduct of the Conference will be played by some other leading educationists, University Vice-Chancellors (Presidents/Rectors), Planners and Administrators, including representatives of the Ministry of Human Resource Development, the Indian Council of Agricultural Research, research institutes and leading private organisations. Also, some innovations have recently been made in the Conference programme, e.g. holding a session each in Sri Aurobindo Ashram and in Auroville, a new international village nearby — in the calm and spiritual setting of the two places where newer approaches to learning are being tried and living in harmony with each other and with nature emphasized. Both organisations are preparing valuable Papers/Workshop material.

The Conference is organised jointly by the Indian Society for Experiential Learning (INSEL), Pondicherry Administration and the University of Pondicherry.*

The topics selected, the outstanding expertise — especially of key participants — and the scenic, calm and spiritual setting provided by Pondicherry and the environs promise successful discussions of new developments and ideas in Experiential Learning.

*** Editor's note :**

The Conference Secretariat's contact address is :
INSEL, c/o Raj Nivas   Tel (0413) 24051
PONDICHERRY - 605 001   (FAX 0413 - 27575

Late registrations can be accepted, but intending participants are requested to contact the organisers at the earliest.

JUST RELEASED

DECENTRALISATION OF HIGHER EDUCATION SYSTEM

The Association of Indian Universities (AIU) feeling concerned about the need for improving the efficiency of the university system to make it innovative, creative and more responsive to the societal needs organised a National Seminar on "Decentralisation of Higher Education System". Organised on the occasion of the 66th Annual Meeting of the Association at Thiruvananthapuram on 8 October 1991, the seminar was attended by the Member Vice-Chancellors. The following sub themes were debated at length.

1. Decentralisation in the UGC (Regional Offices, State Councils of Higher Education);
2. Decentralisation within the University System;
3. Decentralisation in Academic Management of Universities/Colleges; and
4. Financial Autonomy and Accountability.

Professors A.M. Kusro, V.C. Kulandai Swamy, A. Gnanam, (Mrs.) Rajammal P. Devadas and D.M. Nanjundappa presented lead papers on the main theme and sub-themes.

The publication comprises report of the proceedings including the consensus and summary of discussions and the papers presented at the seminar.

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VALUE ORIENTATION OF EDUCATION

S. N. Saraf*

I

Reports of various commissions and committees on education, right from the Radhakrishnan Committee Report (1949-1950) onwards to the National Policy on Education, 1986, the Ramamurthy Committee Report, 1990, have been, among other recommendations, stressing the urgent need, in unequivocal terms, for value orientation of education. The Planning Commission's five year plan reports, in their chapters on education, have also mentioned the need for this important input in the Indian educational system.

Why value orientation of education is not the question? Its operationalisation — how — in terms of programmes - has been the moot question before educational policy planners and administrators during the last four decades. As an alternative to action and implementation, the term 'Value' has been interpreted in different ways. It is agreed that values have to be truly secular[1] in character, constituting major bed-rocks of all religions of the world and cross-cultural in a plural society. In a plural society like India, there has to be constant endeavour to identify generally acceptable human values and promote these within and outside educational institutions at different levels. All these years, no serious attempts were made to identify these values acceptable to a plural society like ours.

Right from its inception in 1981, Sri Sathya Sai Institute of Higher Learning (Deemed University), under the direct guidance of Sri Sathya Sai Baba, its Revered Chancellor, has been implementing an operational model of value orientation as an integral component of the regular academic programme. Its contribution in providing a workable model for implementing the programme of human values has been deeply appreciated. It was felt that the experiences of the Institute, in this innovative area, should be shared with vice-chancellors, educationists, scientists, technologists and policy planners and administrators. This opportunity, of sharing these experiences, was provided by the University Grants Commission when they sponsored National Symposium on Value-Orientation of Higher Education under the auspices of this Institute and in collaboration with the Association of Indian Universities (AIU). The National Symposium was organised during September 24-26, 1987, in Prasanthinilayam.

This high level symposium, attended by a large number of vice-chancellors, educationists, scientists and policy planners discussed, in depth, the definition of human values, their self-consistency, universality and several operational techniques. It also discussed as to how these were incorporated methodically and in a systematic manner, in the curricular and co-curricular educational programmes in this Institute.

II

The Position Paper, prepared by the Institute, for the National Symposium, set the tone for an indepth deliberation of the Symposium. The paper gave a detailed exposition of the goals, objectives and perspectives of the curricular and co-curricular activities being pursued in various campuses of the Institute. It illustrated graphically, and in details, the day to day and year-round and the other kinds of activities on and off the Campuses and programmes directly or indirectly promoting value orientation.

The Position Paper[2] also made references to the following important facets of the Institute's profile.

(1) Awareness Programme for the undergraduate studies and Foundational Courses for the professional degrees like MBA and B.Ed.

(2) Distinctive character of the Institute Emblem, designed by the Revered Chancellor, presenting the fact that the chief goal of human existence is the realisation of Ananda (Bliss) for all mankind and the unity of all men in the world of love. This is the Higher Learning which the Institute is proposing to teach.

(3) Daily schedule of the students work beginning from 5 a.m. in the morning to 10 p.m. in the evening has a judicious combination of a variety of curricular and co-curricular activities, including prayers, yoga, games, studies, self-reliance work, social services in the hostel, Campus, sports fields, library and laboratories.

(4) In the Campuses, the students are welcomed with

Former Vice-Chancellor, Sri Sathya Sai Institute of Higher Learning (Deemed University), Prasanthi Nilayam-515 134, Andhra Pradesh.

'Thought for the Day' written by the students on a black board which provides inspiration for the day. The Institute work begins with silent sitting, morning community prayer meetings, morning assembly addresses by students themselves and occasionally by eminent persons, special programmes on Thursdays including Quizzes, debates, dramatic presentation, symposia organised and presented by students. Sarva Dharma Prayer is the daily feature. All important national festivals are observed in a befitting manner, holidays are turned into holydays.

(5) Sports and Games, Yoga Classes, Social Work and self-reliance programmes, extra-curricular activities like Music and Drama, elocution, debates and quizzes are regular features of the Institute Campuses. Students are continuously assessed on these items. While 75% marks are reserved for academic items, 25% marks are earmarked for integral items which help in promoting intuition.

(6) Sri Sathya Sai All-Rounder Award: To give recognition to students, who have achieved excellence in the academic field and are known for exemplary behaviour, the Institute has instituted Sri Sathya Sai All-Rounder Award.

III

Human Values

The Position Paper made a detailed analysis of the various facets of human values. As a result of continuous experimentation in the educational institutions run by Sri Sathya Sai Organisation and the well-known programmes of Bal Vikas and Education in Human Values Programme for school children, initiated by Sri Sathya Sai Baba, in and outside India, over the last two decades or so, it has been possible to link five major human values with five facets of human personality and five ideals of education. These broad linkages are illustrated below :

Human Values	*Human Personality*	*Ideals of Education*
Truth	Intellectual	Knowledge
Right Conduct	Physical	Skill
Peace	Emotional	Balance
Love	Psychic	Vision
Non-violence	Spiritual	Identity

Like the indivisibility of the personality and its integrated nature, the basic human values are interlinked and interrelated. The Bal Vikas Programme in operation since 1968 and Education in Human Values Programme, initiated in 1980, by the Sri Sathya Sai Organisation, have developed techniques and operational methodologies to link human values with the educational system at the school stage. These programmes have been successful and are yielding very good results both in India and abroad.

All the activities, curricular and co-curricular, in and off the Campuses of the Institute, daily and year round, are so designed that the five ideals of education are achieved in total promoting various facets of human personality in equal measure. Thus the blossoming of human excellence through the pursuit and promotion of intellectual, physical, emotional, psychic and spiritual facets of human personality, leads to the growth of human values and emergence of complete man.

Brief glimpses of the Institute's life were also presented in a 35 minute video tape, which gave both audio and visual presentation of the multi-faceted activities and programmes of the Institute daily, year round and special as well – in the hostels, the Campuses, the sports fields, in which the students and faculty participate as an integral part of total education imparted in the Institute. Thus the participants were familiarised with the overall objectives of the Institute and glimpses of the educational, cultural, creative, constructive activities, important national days and festivals. It was obvious to see that the curricular, co-curricular, self-reliance and social service programmes were fully interwoven with the tapestry of the daily life of the Institute – highly rich and fully educational.

IV

After a detailed discussion of the Position Paper and an indepth and on-the-spot study of several curricular and co-curricular programmes and activities, over a period of three days, the Symposium presented a detailed report. Two important recommendations of the Symposium are specially quoted below:

> "The Symposium reiterates strongly, dispelling any doubt, that the aims and objectives of the programme of Value Orientation in Higher Education in the Sri Sathya Sai Institute are very much in line with the accepted parameters of the promotion of human excellence and cherished values, based on secularism and accepted principles of unity of faiths and religions, all over the world. These objectives are acceptable to every one in any part of the world."
>
> "It is high time that the self-consistent and universal system of values, which can be regarded as the basis on which syllabi and courses of studies, can

be designed. The Sri Sathya Sai Institute of Higher Learning has a five-fold system of values, which is self-consistent and is able to sustain itself as a workable theory of human personality. These five values in the system are Truth, Righteous Conduct, Peace, Non-violence and Love. These can be adopted/adapted by educational institutions."

A number of eminent scientists, educationists, management experts, several dignitaries, within and outside India, have visited the Institute on a number of occasions since its inception in 1981. It may be of interest to study the observations made and views expressed by these persons of eminence and intellectuals — of discerning minds — about the working of the Institute and its value-orientation programme. However, for brevity, observations culled out from the Addresses of a few selected dignitaries and policy planners at the highest level, delivered at Prasanthi-Nilayam on different occasions, pertaining especially to human values, are reproduced below :

> "In a plural society like India, there has to be a constant endeavour to identify generally acceptable values and promote them. So far as the individual values are concerned they may vary from society to society, religion to religion. But some values like *Sathya, Dharma, Shanti, Prema* and *Ahimsa* should be free from controversy; they should be acceptable to all the people in the country. What better place is there in the country to originate these values and spread the word, than the Sri Sathya Sai Institute of Higher Learning? What I have learnt here is a different approach to life and what I have seen is a different culture in the making."
>
> Prof. G. Ram Reddy[3]
> Inaugural Address to the
> National Symposium on
> September 24, 1987.

> "The Sri Sathya Sai Institute of Higher Learning is a unique Institution. Under the guidance of the Revered Chancellor, true education is provided here, education that ensures absorption of knowledge, accumulation of wisdom and appreciation of the experience of ancient ideals of *Sathya, Dharma, Shanti, Prema* and *Ahimsa*."
>
> Dr. Shankar Dayal Sharma
> Hon'ble Vice-President of India
> Sixth Convocation Address
> November 22, 1987.

> "I find that the best advice that can be given has already been made available in the shape of five great ideals which Sri Sathya Sai Baba has described as *Sathya, Dharma, Shanti, Prema* and Ahimsa. These five ideals are the foundations of this Institute and are the secret of its success. If they were to become the foundation of our society, what wonders could be wrought!"
>
> Shri R.Venkataraman
> Hon'ble President of India
> Ninth Convocation Address
> November 22, 1990.

> "This hallowed Institute, Sri Sathya Sai Institute of Higher Learning is a pioneering and unique Seat of Learning. Spiritual and Ethical Values permeate this University. Bhagavan's emphasis on five Universal Values of *Sathya, Dharma, Shanthi, Prema* and *Ahimsa* is truly secular in character, and these constitute the major bed-rock of all the religions of the world."
>
> Shri P.V. Narasimha Rao
> Hon'ble Prime Minister of India
> Tenth Convocation Address
> November 22,1991.

The consensus seems to be clear, and unambiguous, that the five human values of Truth, Righteous Conduct, Peace, Love and Non-violence are acceptable values free from controversy. These values are the accumulation of wisdom and appreciation of the experience of ancient ideals, are truly secular in character constituting the major bed-rock of all the religions of the world. The Hon'ble President of India, Shri R.Venkataraman, in his Convocation Address on November 22, 1990 observed, among other things, that if these values "were to become the foundation of our society, what wonders could be wrought !"

V

Sri Sathya Sai Institute of Higher Learning, has completed the First Decade of Development with accent on a beautiful fusion of intellect and intuition, science and spirituality and analysis and synthesis. Our Revered Chancellor, right from the beginning, has been pleading for oneness, totality and unity. This concept of totality is now being accepted by scientists and medical specialists. They have lately been propounding the theory of total development of the brain which, at present, according to them has two cerebral hemispheres, the left representing the intellect and the right representing the intuition. They give the parallels of the functioning of the two cerebral hemispheres, like intellect and intuition, rational and metaphoric, part and whole, analytical and holistic, explicit and tacit, facts and truth, violence and non-violence, vertical and horizontal, competition and compassion, action and righteous action, differentiation and integration, historical and timeless, etc. In the Institute, through various Programmes, every endeavour is made to achieve totality. Teaching of the science of material and non-material are appropriately combined.

VI

It is recognised, all over the world, that the crux of value orientation is the teacher. He is the important source of values. His feelings, thoughts and action, in personal and academic life, influence his students a great deal. Teacher is the real kingpin of this programme. Recent researches on cognitive processes give teacher a very high importance than the subject matter. We have, therefore, to begin with the total involvement of teachers and their orientation.

Sri Sathya Sai Baba, in his Valedictory Address to the National Symposium on September 26, 1987, referred to earlier, among other things, observed:

> "Human values cannot be promoted merely by repeating the words Sathye, Dharma, Shanti, Prema and Ahimsa. The Vedas declare: "Sathyam Vada, Dharmam Chara" — "Speak the truth; adhere to Dharma and right conduct ". In practising Dharma, there should be no "marma" (Secret desires). Actions performed with such secret motives result in bondage. Truth and right conduct should be adhered to with pure intentions. Both of them are rooted in the eternal. A righteous life leads to peace. Love is to be experienced in the depths of peace. Love should find expression in non-violence. Where love prevails, there is no room for doing harm or violence to others. All these basic values have to be demonstrated in action and not limited to preaching."
>
> "Many educationists and Vice-Chancellors are present here today. Their vision is turned outwards towards the external physical world. I am concerned with the Inner Vision. It is not possible to reconcile the physical and the internal spiritual vision. The heart cannot be transformed by lessons in a classroom; the world cannot be changed by mere preaching. Only through action and practical example can the impulse for change be intensified. When one leads a disciplined and regulated life, the lesson will be learnt without any teaching. The people will follow of their own accord. This applies to human values. Only when they are practised by teachers and elders, will students practise them".

As will be observed, Revered Baba is and has been pleading that when human values are practised by teachers and elders, the students will practise these with rewarding results.

Notes :

1. The secularism of the Indian Constitution is intended only to secure that no discrimination is practised by the State against any citizen on grounds of religion or faith and that people belonging to all faiths and religious persuasions are enabled to enjoy equal freedom in the matter of practising and propagating their religion. Thus there is nothing in the principle which prescribes the inclusion of properly broad-based moral and spiritual instructions geared to the cultivation and development of a proper sense of human values, in the minds of the students and teachers in our educational programmes.
2. Two additional Position Papers : one indicating the list of topics on which students and faculty spoke in the Daily Morning Assembly, important addresses/functions on Thursdays and another summary of the articles presented by Faculty — dealing with the integration of Values with various subjects were also circulated at the symposium.
3. He was the then Vice-Chancellor, Indira Gandhi National Open University, New Delhi, and President, Association of Indian Universities. Presently, he is the Chairman, University Grants Commission, New Delhi.

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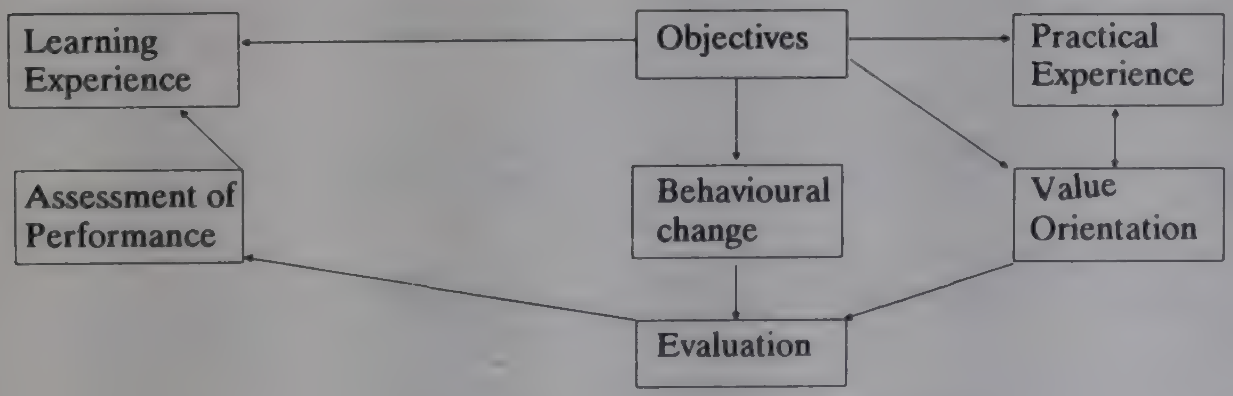
Evaluation Models for Distance Education

Anjni Koul*

The failure of formal system of education to cater the needs of a large number of students at the school, college and university levels, has led to several alternatives for educational reconstruction. Educationists like Illich and Riemer have advocated the 'deschooling' of society and total abolishing of formal schooling. UNESCO and several other organisations have suggested that the system of education be supplemented by 'lifelong' or 'continuing education' strategies. The experts like Moore, Peters, Holmberg and Danial are of the opinion that the utilization of 'Distance Education' can provide an effective, workable complement to conventional formal system.

Distance education is an innovative and pragmatic approach for extending education to the millions of students for whom the school or higher education remained a distant dream. It refers to learning systems that serve dispersed students population and involve a minimal reliance on face to face teaching. This system liberates the student from the constraints of space, time and age associated with conventional provision permitting him a degree of flexibility as to the regularity, timing and location of his study activities. There is flexibility in the curriculum and content of learning materials through modular structures, the conscious and systematic design of learning materials for independent study, self-assessment and feedback, and the planned use of a wide range of media suited to the needs of the students.

However, it is an irony that the distant learners are evaluated through a system of examination which is more or less very similar to that of a formal system. The evaluation in the context of distance education needs to be innovative and need- based. It should be non-formal, diagnostic and continuous in approach. The main emphasis should be on determining how much progress the distant learners are making towards the achievement of goals set for them. Each component should be evaluated by the participants and the information should provide feedback to improve the performance of distant learners on the basis of the Model No. 1 below:



Model No. 1

Criterion Referenced Testing in Distance Education

The relevance and application of norm referenced, objective referenced and criterion referenced evaluation in our distance education institutions is almost unknown. The standardized tests cannot provide adequate details regarding, the relative performance, criterion or domain referenced tests are needed to assess the performance of the distant learners objectively. But unfortunately, no attempt seems to have been made by any expert of distance education.

The psychometrician would feel that norm referenced and criterion referenced i.e. the combination of the two components of evaluation provide a good check on the fixing of goals and assessing the performance of the distance learners. The criterion referenced tests are needed to be developed for different courses through correspondence and for different target groups with diverse curricula. As our curricula for different courses of distance education is the same which we have for regular students, no innovative contents or topics are found in the courses of study of distance education. Therefore, the learners, most probably do not relish the course content. We should develop our own course content which should be different from regular course in order to create more interest in the learners. While

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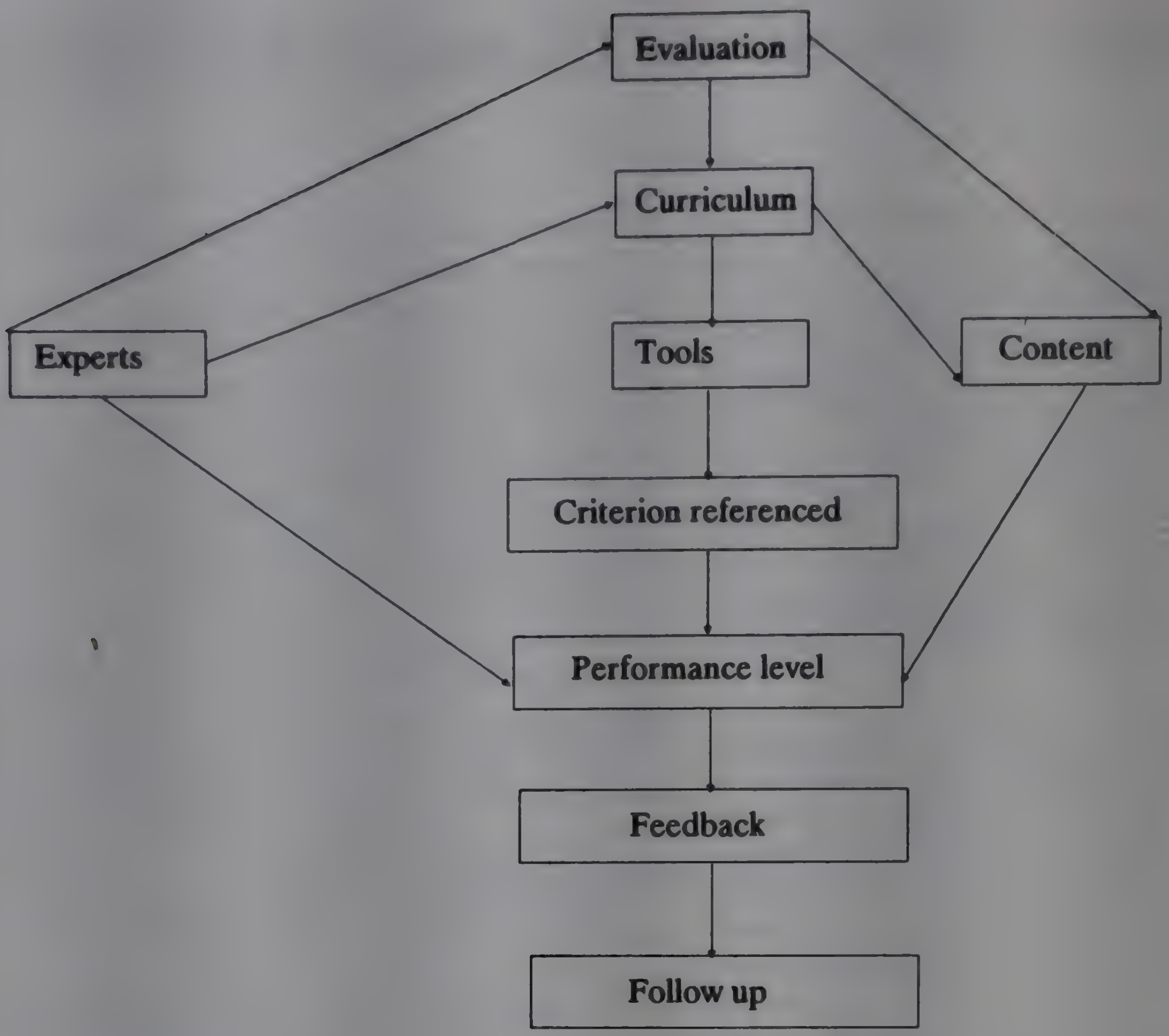
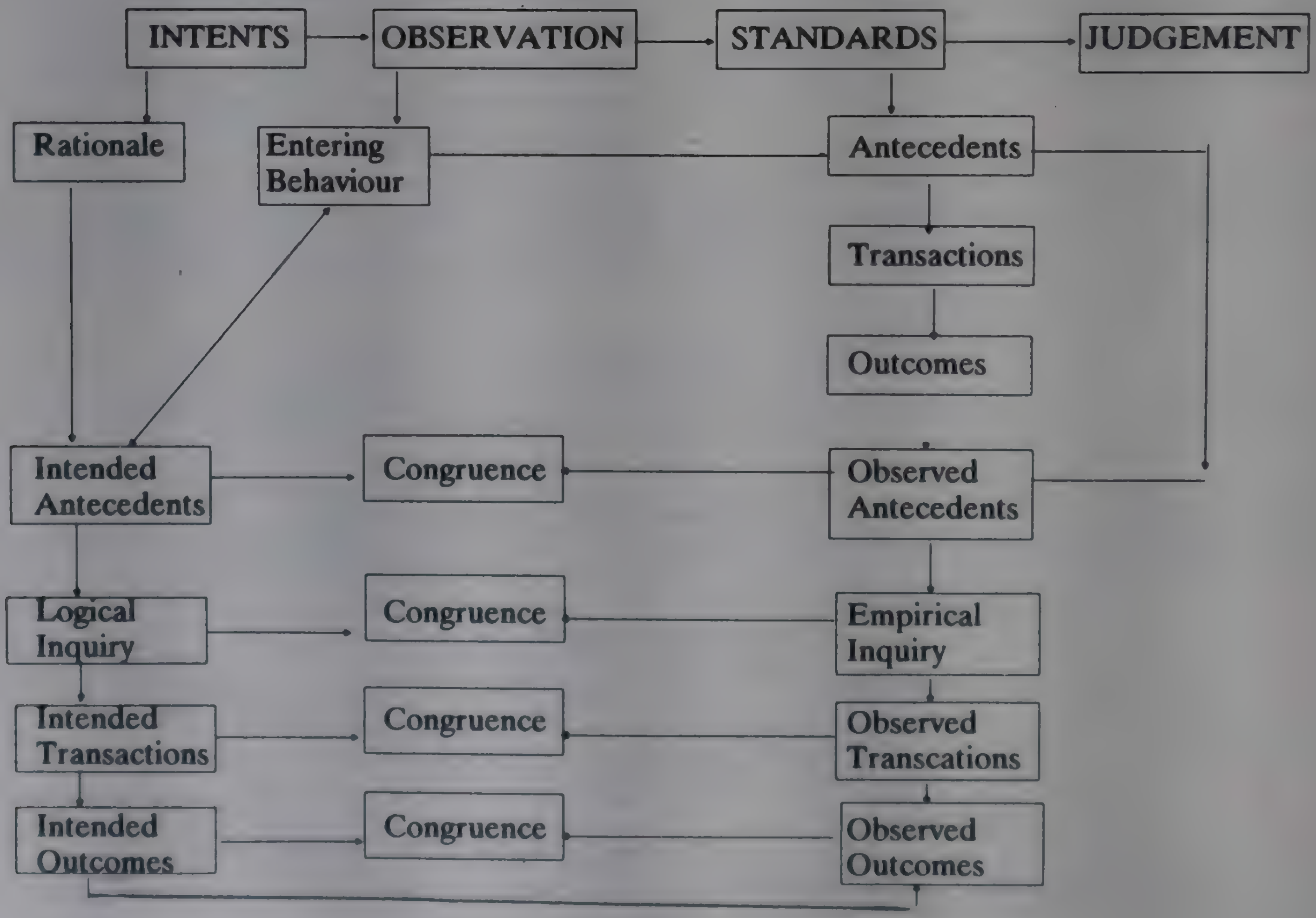
**School of Life Sciences, Jawaharlal Nehru University, New Delhi-110 067.*


Evaluation
Curriculum
Experts
Tools
Content
Criterion referenced
Performance level
Feedback
Follow up

Stake's Model No. 2


INTENTS
OBSERVATION
STANDARDS
JUDGEMENT
Rationale
Entering Behaviour
Antecedents
Transactions
Outcomes
Intended Antecedents
Congruence
Observed Antecedents
Logical Inquiry
Congruence
Empirical Inquiry
Intended Transactions
Congruence
Observed Transcations
Intended Outcomes
Congruence
Observed Outcomes

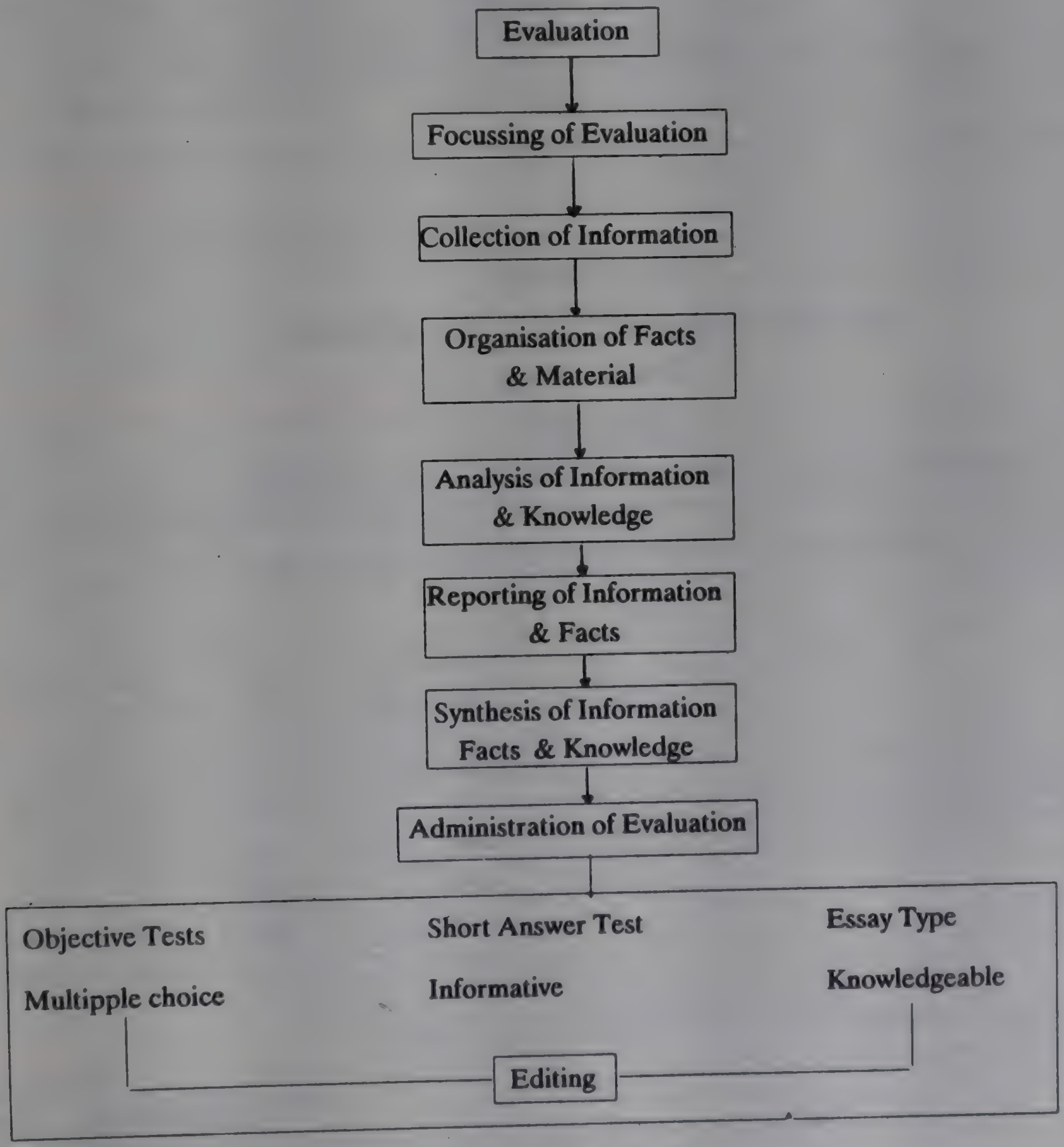
Stake's Model No. 3

formulating the course content for distant learners, the experts should keep in view the personality variables of the distant learners.

Personal Contact Programmes(PCP)

In open learning system the distant learners face many difficulties in their studies (McIntosh 1975, Mackenzie 1975, Kenneth 1976, Catherine 1976, Guha 1979, Lewis 1979, Roger 1980 and Parrey 1982). Their problems cannot be solved by any individual. They mark the difficult topics of their course in the opted disciplines which are required to be discussed at a particular place and time. The very idea of face-to-face teaching for a short period of time in summer schools or in tutorials cater to the needs of the distant learners in open learning system. The fundamental concept of open learning is to have free and independent study and Personal Contact Programmes are designed to unravel the mystery of elusive identities through social concepts and intellectual discussion in the classroom to remove the difficulties and understanding the points pertaining to the specified course content (Lewis 1979, Roger 1980, Parrey, 1982 & James 1984). The PCPs are remedial in nature and supportive in disseminating the information and knowledge which ensure the progress of the open system learners.

In India, the teachers of the regular faculties are engaged in teaching the distant learners. They generally guide and instruct the students as is done in case of regular students. The areas and expertise are required to be identified in the distance education programme. Stake's model can be helpful in conducting Personal Contact Programmes. According to him, formal evaluation of education is recognised by its dependence on Check-tests, Structured Visitation by the experts, Controlled comparisons and testing of students'


Evaluation
Focussing of Evaluation
Collection of Information
Organisation of Facts & Material
Analysis of Information & Knowledge
Reporting of Information & Facts
Synthesis of Information Facts & Knowledge
Administration of Evaluation
Objective Tests
Multipple choice
Short Answer Test
Informative
Essay Type
Knowledgeable
Editing

Model No. 4

knowledge. At present the informal evaluation is in vogue which helps to know about the opinion of the Instructor to ponder over the logic of the programme or to consider the reputation of the experts. Much recent concern about curriculum evaluation is attributable to contemporary large-scale curriculum-innovation activities. The curriculum is oriented to subject-matter content or to student process, if it is remedial, accelerated, compensatory or special in any other way.

(i) *Antecedent* - is any condition existing prior to teaching and learning and exchanging of views which may relate to outcomes. The aptitude, previous experience, interest and willingness is a complex antecedent.

(ii) *Transactions* are dynamic, whereas, antecedents and outcomes are relatively static. During the transaction we can identify certain outcomes which are feedback antecedents for subsequent learning.

(iii) *Outcomes* are considered the achievement of goals set for distant learners.

Intents, observations, standards and judgements are important variables of evaluation for distance education programme. Understanding of concepts is brought about through discussion in tutorials, easily understandable lectures, and quiztime. Comments of the students are essential components of Personal Contact Programmes (PCPs).

Printed Material

Our distance education programmes are print based. Therefore, it is imperative that we should ensure the quality of the printed material. The distance learners depend on the material supplied. It is the backbone of distance education. The success or failure of the course depends on the quality and type of printed material supplied to the students by distance education institutions. The lessons are in most cases written by the experienced teachers drawn from different universities and colleges. The lessons are thoroughly scrutinized and edited by the institutes, the model of evaluation propounded by Stufflebeam can be helpful in designing, preparing and giving final shape to the lessons and other print material. The model is given on page 11.

प्रसार निदेशालय

राजस्थान कृषि विश्वविद्यालय, बीकानेर

कैम्पस : उदयपुर

क्रमांक : प्रनि/राकृवि/स्टोर/91-92/6/

निविदा सूचना

दिनांक 6.2.1992

इस कार्यालय द्वारा निम्नलिखित सामान क्रय करने हेतु मुहर बन्द निविदाएं आमन्त्रित की जाती हैं जो कि दिनांक 9.3.1992 को अप्रहान्त 12.30 बजे तक अधो हस्ताक्षरकर्ता के कार्यालय में ली जायेंगी तथा उसी दिन शाम 2.30 बजे इच्छुक उपस्थित निविदा करने या उनके अधिकृत प्रतिनिधि, जो उपस्थित रहेगें, के समक्ष खोली जायेंगी।

निविदा प्रपत्र अधो हस्ताक्षरकर्ता के कार्यालय में निविदा शुल्क प्रत्येक के सामने दर्शाई गई है, जमा करा दिनांक 9.3.1992 प्रातः 11.00 बजे तक खरीदी जा सकती है। निविदा शुल्क वापसी योग्य नहीं है।

क्र०सं० 1.	विवरण 2.	अनुमानित लागत (लाख रु० में) 3.	धरोहर राशि 4.	निविदा शुल्क 5.	अवधि 6.
1.	ओडियो विज्यूअल एड्स (श्रव्य दृश्य उपकरण)	3.20	6400/-	50/-	5 दिन
2.	सेरीकल्चर उपकरण बाँस के टोकरे, बाँस की चन्द्रिकाएं, लकड़ी के रियरिंग स्टेण्ड	0.18	400/-	5/-	8 दिन
3.	कृषि अभियान्त्रिक कार्यशाला उपकरण	4.08	8000/-	50/-	8 दिन
4.	पशुपालन दुग्ध उत्पादन उपकरण	0.97	2000/-	25/-	8 दिन
5.	उद्यान विज्ञान उपकरण	0.58	1150/-	25/-	8 दिन

शर्तें:—

1. अधो हस्ताक्षरकर्ता को समस्त या किसी निविदा को बिना कारण बताये निरस्त करने का अधिकार।
2. मात्रा कम या अधिक की जा सकती है।

निदेशक प्रसार

प्रसार निदेशालय, उदयपुर

Utilization of Countrywide Classroom TV Programmes

An Appraisal Study

Jagannath Mohanty*

Introduction

With a view to ascertaining the extent of utilization of countrywide classroom (CWC) Programmes sponsored by the University Grants Commission (UGC) the present study was undertaken with the help of data collected from two states – Orissa and West Bengal at the fag end of 1991. Although the quantum of data is limited, the subjects from whom the data were collected belonged to a cross section of the colleges and subject areas. The UGC is committed to this promising project and spending huge amount of money in spite of pressing constraints and financial stringency. It is complained that these ETV Programmes are not being utilised in most of the colleges. It is hoped that this small study will throw some light on this controversial issue.

Objective

The objectives of this study are as follows :

(a) to ascertain the number of colleges/PG Departments of the universities where the TV sets are available,

(b) to know the purpose for which the same are being utilised,

(c) to pinpoint the difficulties in utilization of the ETV Programmes (CWC Programmes),

(d) to draw the suggestions from the respondents for better utilization, and

(e) to recommend steps for effective utilization of CWC Programmes.

Sample

A structured questionnaire was administered on the participants of Academic Staff Colleges of the 10th Academic Staff Orientation Course, Utkal University and 1st Refresher Course in Education, Calcutta University. The number of participants were 26 & 21 respectively. The participants were working as lecturers in various colleges, Government and Private, and hailed from Rural and Urban areas, and PG Departments of various universities in these states. The sample was thus quite representative in nature.

Tools & Techniques

A structured questionnaire was developed for the purpose in the light of the objectives of the study and data were collected personally by the Investigator. The respondents were specially requested to suggest ways and means of utilization of CWC Programmes if their colleges/PG Deptts do not have TV sets, but they might have had the opportunity of viewing these programmes at their home or elsewhere. It was also made clear that the data would be kept confidential and utilised only for ascertaining the status of utilization of CWC TV Programmes and for improving the existing conditions in the two neighbouring states. The questionnaire was administered on the respondents and about 5 to 10 minutes were allowed to them for filling up the same without any interruption & interference. Some participants however discussed some relevant issues with the investigator after submitting their filled in questionnaires. Although some amount of scepticism was evident among the respondents, a good number of them evinced keen interest in the CWC TV Programmes.

Analysis & Interpretation

The data collected from these two heterogeneous groups of participants were not so much biased or influenced by sex, subject or location of colleges/PG Deptts. For better analysis of the data, the respondents of these two groups/samples were however termed as Group 'A' & Group 'B'. The Table 1 gives clear picture regarding the availability of TV Sets in Colleges/PG Deptts.

It is evident from the Table 1 that only 11 percent of B/W TV sets and 38 percent of Colour TV sets were available in Colleges/PG Departments. On the whole 49 percent of the sample possessed either B/W or Colour TV Sets. Only one College had more than one Colour TV sets, total No. of TV sets available being 23 (5 B/W & 18 Colour TV)

As regards utilization of TV Sets Table 2 shows that 13 percent of TV Sets were regularly used, 30 percent of the sample being occasionally used and 9 percent used not at all. Unfortunately 49 percent of respondents were silent in the matter.

The main purpose of installing TV Sets is to enable the students and teachers to view the UGC sponsored CWC TV Programmes. But in actual situations it was

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*Director, Academic Staff College,
Utkal University, Bhubaneswar.*

found that TV Sets were not adequately utilised for the purpose for which these were installed or procured. Besides the TV sets were being utilised for viewing the programmes on sports, Films & Films Songs, News and any other items/programmes. As regards this 23(49%) have given their responses and 24(51%) kept silent over the matter. The reasons attributed to such silence are non availability of TV Sets in their colleges/departments or lack of interest.

It is evident from the Table 3 that 40 percent of the colleges in the sample utilise TV sets for viewing sports & games, 13 percent for Feature film & Film Songs, 34 percent for news & 13 percent for other video shows. However 38 percent of TV sets in the sample utilised their TV Sets for viewing the UGC programmes. In the field of utilization of TV Programmes there were some difficulties of which some were genuine and true, while some were not revealed by the respondents.

Table 4 gives a clear picture about the difficulties as reported by the respondents. It is evident from the Table that according to 38 percent of the respondents TV sets were not available. However 30 percent pointed out lack of accommodation for viewing and 11 percent observed that TV sets were otherwise utilised.

At the end the respondents were requested to suggest measures for improving the existing situations. But some were found reluctant to do the same. It is heartening to note that most of the respondents extended their suggestions. These suggestions have been grouped for facilitating better analysis and interpretation.

It is evident from the Table 5 that 53 percent of respondents observed the present time of telecast to be not convenient, 53 percent asked for TV Sets, 9 percent of respondents pointed out that programmes be telecast on the problems & methods of teaching in secondary and primary schools, 19 percent of respondents have asked for separate period in the time table and 15 percent for suitable accommodation.

Major Findings

(a) 11 percent of the colleges have B/W TV Sets & 38 percent of respondents have colour TV Sets.

(b) In 13 percent of the sample, TV sets were regularly used, 30 percent used only occasionally and 9 percent did not use at all.

(c) 38 percent of the sample have utilised their TV sets for viewing CWC Programmes whereas 40 percent for sports and games, 13 percent for Feature Film & Songs, 34 percent for News, 38 percent for CWC TV Programmes & 13 percent for other programmes.

(d) 38 percent of the sample pointed out non-availability of TV sets, 30 percent lack of accommodation, 11 percent otherwise utilised.

(e) As high as 53 percent opined that present time of telecast was not convenient.

(f) 53 percent of respondents have asked for provision of TV sets.

(g) 19 percent have suggested for separate period in the Time table for CWC Programmes, & 9 percent respondents for practical Indian oriented programmes.

Recommendations

On the basis of the above findings the following steps are recommended:

(i) All PG Departments/Colleges be provided colour TV sets in a phased manner or management may be advised to purchase the same out of their own funds.

(ii) Care should be taken for installing TV set in a suitable place preferably in a hall under lock & key and a lecturer or a qualified person may remain in charge of the same for timely utilization.

(iii) Since no time can be found suitable for all the colleges/PG Deptts throughout the country, the present time of telecast be continued. But possibilities may be explored as to repeat the same programme either in the morning or in the evening hours for enabling students and teachers to view the CWC Programmes.

(iv) Since interest in and awareness about the importance of the CWC Programmes have not been generated, adequate steps be taken for the same. Besides wide publicity about the schedule of the programmes be made much ahead of transmission of CWC TV Programmes so that subject teachers as well as students interested in the programmes can take advantage of the same.

(v) Relevant topics may be identified by a group of experts/or a team of working teachers who are teaching in the Colleges/PG Departments for production of telecast of suitable CWC Programmes.

(vi) The infrastructure may be developed for replication of CWC TV Programmes on a commercial basis for enabling the Colleges/Departments to procure & utilise the same at their convenience.

(vii) Principals/Heads of College/Department may be advised for installation/effective utilization of CWC TV Programmes for improving the quality of higher education.

Table 1

Information about the availability of TV Sets in Colleges and PG Departments

(N=47)

Sample	*Nature & No. of TV Sets Available*										*Total*	*%*
	B/W	*1*	*2*	*3*	*%*	*C*	*1*	*2*	*3*	*%*		
Group A	3	3	—	—	6	15	13	2	—	32	18	38
Group B	2	2	—	—	4	3	3	—	—	06	05	11

Table 2

Information about Utilization of TV Sets in Colleges/P G Departments

(N = 47)

Sample	*Extent of Utilization*						*No Response*	
	Regularly		*Occasionally*		*Not at all*			
	No.	*%*	*No.*	*%*	*No.*	*%*		
Group A	6	13	10	21	2	4	8	16
Group B	—	—	4	08	2	4	15	32
Total	6	13	14	30	4	8	23	48

Table 3

Distribution of Colleges/Departments regarding Utilization o f TV Sets

(N = 47)

Sl.	*Purpose of Use*	*Group A*		*Group B*		*Total*	
		No.	*%*	*No.*	*%*	*No.*	*%*
i.	Sports & Games	15	32	04	08	19	40
ii.	Feature Film & Film Songs	06	13	—	—	06	13
iii.	UGC Programmes	16	34	02	04	18	38
iv.	News	12	26	04	08	16	34
v.	Video Shows	05	11	01	02	06	13

Table 4

Distribution of Colleges/Departments regarding the Difficulties in Utilization of Programmes

Sl.	*Difficulties*	*Group A*		*Group B*		*Total*	
		No.	*%*	*No.*	*%*	*No.*	*%*
i.	Non Availability of TV Sets	11	23	07	15	18	38
ii.	Non Availability of Accommodation	11	23	03	07	14	30
iii.	Otherwise Utilised	03	07	02	04	05	11
iv.	Lack of Interests & Motivation	03	07	01	02	04	08

Table 5

Distribution of the Suggestions for Improving the Existing Status in Viewing the CWC Programmes

Sl.	*Suggestions*	*Group A*		*Group B*		*Total*	
		No.	*%*	*No.*	*%*	*No.*	*%*
i.	TV sets be provided	10	21	15	32	25	53
ii.	Suitable time for telecast	16	34	09	19	25	53
iii.	Suitable Accommodation be provided	07	15	—	—	07	15
iv.	Separate period be provided in the Time Table	06	13	03	06	09	19
v.	VCR, VCP be provided	01	02	05	11	06	13
vi.	Topics to be covered by the CWC Programmes on Primary & Secondary Teachers	01	02	03	07	04	09

Sustainable Development of Human Settlements

Shri Arjun Singh, Minister of Human Resource Development, Govt. of India, delivered the Convocation Address at the annual convocation of the School of Planning and Architecture, New Delhi. Expressing deep concern for the environment we live in, Shri Singh said, "We are naturally all concerned about the environment we live in but more than that, the onus is on in achieving a higher quality of life for all of us as well as the future generations. A better future for all of us can only be ensured through sustainable development of human settlements." Excerpts

The world is becoming increasingly concerned about its future and the growing fear that pollution of the environment caused by industrial development may result in far reaching devastations. In this concern the entire global community is coming together to devise concerted action to save our planet. Success in this endeavour may ensure a better future for all of us.

We are naturally all concerned about the environment we live in but more than that, the onus is on in achieving a higher quality of life for all of us as well as the future generations. A better future for all of us can only be ensured through sustainable development of human settlements. The human settlement and its sustainable development is a major concern of this institution. I am pleased to know that the School has kept pace with changing realities through its courses, programmes and its extension activities. Recently, I had occasion to visit the School in connection with the visit of His Royal Highness Prince Charles and had a glimpse of the students work at undergraduate level. I was very impressed by the quality of their work.

India posesses one of the most developed systems of human settlement through history. Ancient cities of our country, can qualify for the same antiquity and excellence as that of Cairo, Rome and Constantinople. The ancient treatises of city building and architecture of India are one of the most advanced systems compared to anywhere else in the world. Our life style had always respected the environment. Our day starts with attribute to the Sun, the sustainer of life on earth. Rivers of India are treated as deities. The forests of the Himalaya are worshipped as hairlocks of Lord Shiva, through which the Ganga flows in many streams. Before any construction on land we worship the land and pay our tribute. This reverence for nature and the fundamentals of life was born out of the understanding of mutual interdependence and its relationship with human survival. It has helped us to assimilate various cultures and offer refreshing blends in our environment. Only latterly has there been a substantial degradation in environment of living. This is not only the case in India, but also true for industrialised nations around the world. Much of the development which was carried out for improving the standard of living has resulted in lowering the quality of living. In this context, therefore, being an institute in the forefront of planning and design of human settlements, the School carries an enormous responsibility in taking an active role in upgrading the living environment through planning and design at appropriate levels. The School develops the capability in a student to design a modest shelter or a major urban complex, or even plan a metropolis and even a region. In each stage the scale of operation varies and complexities increase. Whereas small projects can be handled by individuals, large projects invariably involve team work. The students get ample opportunity to be exposed to both the experiences.

When we talk of living environment I mean all the people, not only the rich city dweller but the poor city dweller also, not the urbanites only but the people living in rural areas also. If the environment of living is to be sustainable it must equally improve the condition for everybody. Architecture to be meaningful must be able to design a habitable shelter even for the poorest of the poor. This is where the real challenge is for the profession. All the global initiatives would be meaningless if we are unable to provide basic minimum needs to everybody equitably.

I admire the architecture and towns of India – with traditions as I said from antiquity. I am also proud of our architecture and town planners of today many of whom have made a name in the world of architecture and planning. But still affordable housing for the poor has eluded our achievements. It appears that sufficient endeavour has not been devoted to this aspect by the profession at large although there are a few whose works have been noteworthy. I am glad to know that the School has undertaken a study of villages around Delhi to make them energy self-sufficient, which is a step in the right direction. I personally would like to see more of people's architects where the community is involved in all stages in its shaping of its own environment.

It costs a poor nation a lot of money to train one architect and when we lose that architect to the service of some other affluent foreign country, I feel a deep sense of loss which I hope you also share. I would request the students receiving degrees today that they must pledge to serve the country that has sustained them. I am aware of the hard work that you have all put in to achieve the degrees that you have received today. In this process, I am told that you invariably carry out original research, and conduct first hand surveys. In each assignment new ground is investigated by you. Yet, at the same time I am told that there are very few indigenous books based on Indian case studies. Obviously, the effort goes unrewarded due to poor documentation. Some good studies could be published as books, others could find place in journals or other published sources. The rest could be maintained as retrievable source of information which could be available as resource material for future generation of the students. Being a premier institution of its kind the School should serve as a storehouse of information on human settlement not only for the students of this institution but for others as well. It can also serve the needs of professionals in practice.

Apart from the locational advantage of being in the Capital, the School is ideally placed to serve as a centre for training and dissemination of educational material for other Schools in India as well as in the SAARC countries. I hope that the School would develop collaborative programmes jointly with other Schools mutually beneficial to both. I understand that some joint projects have started with institutions in England and that some more are in the offing with some institutions notably in Italy and the USA. It may be more useful to share the experiences with other sister institutions in India and the countries around us.This would not only help in broadening the base of knowledge, it would also result in greater understanding among each other furthering the cause of national integration.

For this purpose, the School could take a lead by identifying few thrust areas of environmental improvements and heritage conservation. A common forum may be created so that students of all institutions in India take up similar projects simultaneously. In this process exchange of faculty and students may also be beneficial so that a uniform standard in performance is ensured.

Every year more than 1000 students all over India prepare designs and plans for various projects all over the country. If the students take up live projects the concerned authorities could benefit from alternative approaches. It may even be possible to adopt one of the proposals for implementation. In this way integration between the precept and practice could be achieved right from the formative years. All institutions imparting teaching in planning and architecture should actively examine this aspect of professional education since this may not only provide direct contact with practicalities of a profession, it may also help pay for part of the expenditure in imparting this training.

Our country is vast and at the moment beset with multitude of problems. A large section of our population still does not have access to many of the basic services. There are financial constraints in every field. On top of it, the environmental endowments such as air, land and water are becoming increasingly polluted. This is a time when all of us have to make concerted efforts to save the resources of the nation, through our efforts to achieve a sustainable development for all our people.

Indira Gandhi National Open University

Schedule of Telecast for the period 1 March to 31 March

6.30 a.m. to 7.00 a.m.

Date/Day	Academic Prog.	Title & Course
2.3.92 Monday	Bachelors Degree Programme (BDP)	Development & Under-development
4.3.92 Wednesday	Cert. in Food & Nutrition (CFN)	1. Apna Bhojan Kitna Surakshit 2. Open Channel
6.3.92 Friday	Management	Effective Selling
9.3.92 Monday	Bachelors Degree Programme (BDP)	Vikas Aur Alpa-Vikas
11.3.92 Wednesday	Computers in Office Mgt.(DCO)	Office & The Computer-I
13.3.92 Friday	Management	Probability Fundamentals
16.3.92 Monday	Bachelors Degree Programme (BDP)	Simple Societies
18.3.92 Wednesday	Diploma in Distance Edu (DE)	Communication Across the Distance
20.3.92 Friday	Management	Probability Applications
23.3.92 Monday	Bachelors Degree Programme (BDP)	A Window to the Universe
25.3.92 Wednesday	Computers in Office Megt. (DCO)	1. Office & The Computer-II 2. Open Channel
27.3.92 Friday	Management	Demand Forecasting
30.3.92 Monday	Bachelors Degree Programme (BDP)	Brahmand Ki Khoj

Info Tech for Urban & Regional Planning

A Short Training Course on "Application of Information Technology for Urban and Regional Planning" was conducted by the Centre for Urban Studies of the School of Planning and Architecture (Deemed University), New Delhi in collaboration with the Town and Country Planning Organisation, Ministry of Urban Development, Government of India, New Delhi.

The short course was designed to apprise mid-career planners in application of information technology in urban and regional planning with specific objectives of :

(i) Updating on information extraction, sources including satellite and aerial remote sensing, storage/analysis, and other computer applications;

(ii) Operational case studies on the application of information technology in Indian environment;

(iii) Practical demonstrations; and

(iv) Guidance in establishing Information Systems in development authorities/urban and regional planning offices, etc.

The course was inaugurated by Dr. (Miss) Girija Vyas, Deputy Minister for Information and Broadcasting, Government of India. She said that where on the one hand, we had the remote sensing technology providing us synoptic observations over large area in a timely and objective manner, we had on the other hand the technology of Geographical Information Systems for storing this vast amount of information and collating and analysing the same very expeditiously. It was a matter of great pride, she said, that we had our own satellites like IRS 1A and 1B and a very advanced systems of receiving the information sent by these satellites. Similarly, various organisations in India had developed their own Geographical Information Systems for making the best use of available information for Indian conditions. Altogether, we were better informed about our forest resources, about the rate at which more and more land is being put to non- agricultural uses, about the potential areas for underground drinking water and so on.

Dr. Vyas suggested the School to be a focal point for training in information technology especially for remote sensing and GIS.

The course, attended by 14 mid-career and senior planners from various Urban Development Authorities, Town and Country Planning Departments and educational institutes all over the country, was devoted to the basics of information technology with extensive lecturing and practicals covering basic ideas of type and sources of information, remote sensing, some popular computer softwares and Geographical Information Systems (GIS). The course was followed by theme oriented applications with presentation of case studies involving practicals.

A large number of lectures were based on actual working of the equipments and instruments that were used for getting the best out of this technology. The Remote Sensing Laboratory and Centre for Analysis and System Studies of the School and Computer Section of the Urban and Regional Planning Information System division of Town and Country Planning Organisation were used extensively for the purpose. A large number of demonstrations of computer processing of remotely sensed data and GIS were organised; the important ones being USEMAP, MASMAP, ARC-INFO, THEMAPS, etc. This also included a visit to the National Informatics Centre, Planning Commission, to see the functioning of District Information System and other packages being used by them.

A background reader of about 250 pages was prepared and circulated to the participants as a "take home" package of reference material. This included a glossary of terms of more than 400 commonly used jargons in the field.

Shri D.S. Meshram, Chief Planner, Town and Country Planning Organisation, Government of India presented the certificates to the participants and delivered the valedictory address.

Reminding the participants of a situation where we do not have even up-to-date large scale base maps, leave aside preparation of development plans for majority of the towns, Dr. Meshram said that highest priority may be accorded to the preparation of large scale base maps with the help of aerial photographs and satellite remote sensing techniques and updating the same using Geographic Information Systems.

Shri Mahavir, Assistant Professor of Planning in the School coordinated the short training course. The faculty was drawn from the School of Planning and Architecture, Town and Country Planning Organisation, Space Application Centre, Indian Institute of Remote Sensing, Delhi Development Authority, National Informatics Centre, IIT Bombay, SRI Pune, Institute of Town Planners, etc. to cover both academic and practical aspects of the use of technology.

Women in History

The Department of History of Panjab University, in collaboration with the Indian Council of Historical Research, recently organised a three-day seminar on Women in History. The seminar was inaugurated by Haryana's Minister for Science, Technology and Electronics, Dr. Ram Prakash, while the key-note address was given by the chairperson, International Union of Anthropological and Ethnological Commission on Women, Mrs Leela Dube. Dr. Gurdev Singh Gosal, Dean, College Development Council, presided.

Dr. Dube in her address said for "good work" in women studies, interdisciplinary approach and collaboration was necessary for a broader perspective. She did not agree with those who felt that such a collaborative approach diluted quality.

She regretted that even social sciences had been caught in the "generic trap" made by man. The word "man" was considered to be a short form of "human being" but unfortunately now it stood for just "males." The social science "man" should include both. In fact gender relations could not be studied in isolation and both male and female bias had to be avoided. Mechanical models of the west should not be adopted with blind faith in "our society".

Dr. Ram Prakash on the other hand, tracing the role and status of women from early times to comtemporary times, said they had a key role to play and should not endorse consumerism and corruption. The women must choose role carefully to stop "degeneration of society."

Dr. Gosal remarked that equal opportunities must be afforded to men and women for balanced growth and development.

The papers presented at the seminar included "From Kuris to Kitties : A history of small savings among women" by Raj Mohini Sethi: "Working Women : Dilemma of dual roles" by Asha Mohan Sethi; "Educated Indian Women —unfavourable choices in the past and the present" by Pushpa Chaudhary and "Role of Women in Family Welfare" by Sunita Mukherjee.

While Raj Mohini analysed the emergence and importance to particular forms of small savings—'kuris' in the South and 'kitty (parties)' in the north — giving them social status, Asha Mohan in the paper on working women suggested "redefining" of the role of men and women in society due to changed circumstances and social stresses and strains in the house and at work.

Pushpa Chaudhary also spoke on similar lines when she referred to "multiplicity" of roles of working women and need for "attitudinal change in thinking of males".

Sunita on the other hand talked about the changing role of women in the context of expanding population and need to check the same for which again women would have to play a role because factors like female literacy, infant mortality, female age of marriage etc. have to be considered. It is woman who is affected most because of high fertility rate. The downfall in female ratio to male (929) was alarming as indicated by the recent census. While northern states showed it below 950, the southern states had it above 950.

According to the Director, Dr. Kiran Pawar, the seminar had a "wide canvas taking political, socio-economic as well as cultural perspective across the ages up to the contemporary woman.

The other papers presented and discussed included : "Ideology of Motherhood in Ancient India" by Jalalluddin Ahmed, "Position of Women as visualised in the composition of Guru Nanak Dev" by Dr. J.S. Grewal, Director, IIAS, Shimla, "Caste and Gender in the 18th century Maharashtra" by Dr. Uma Chakravarti, "Women, Work and Technology: the pictorial evidence" by Dr. A. Jain Qaisar and "Annis Besant's India" by Ms Jyoti Chandra.

Orientation Course for Riot-force

A nine-day orientation programme on "Contemporary Social Realities and Awareness" was recently organised in New Delhi with the help of the Indira Gandhi National Open University. Intended for senior officers of the CRPF'S proposed Rapid Action Force (RAF) to handle communal riots, the programe will help officers understand the genesis of communal problems and help in tackling them.

In his inaugural address, the IGNOU Vice-Chancellor, Prof. V.C. Kulandai Swamy observed, "Peace, is no longer a matter of weapons but needs understanding, steming from a knowledge of the source of problems".

As people who will have to deal with complex, sensitive problems and situations, the troops will need re-education, reorientation, continuing education, said Prof. Kulandai Swamy. He observed that the country was under siege from within; all paths were beset with dangers, uncertainties. Society today was more turbulent. To understand and deal with all these problems, to preserve the concepts of non-violence and secularism, education is the only answer, he said.

Prof. Kulandai Swamy said that the course was the first of its kind. The university was also examining the possibility of introducing a distance education programme for police officers, he added.

The course is an opportunity to see how others look at us, said Mr. Joginder Singh, Inspector-General of the CRPF's north sector. Try and create a climate where you need the CRPF less, he appealed.

Refresher Course on Darsanas

"We have not attended such a course, where different systems of Indian Philosophy were explained in modern terminology without losing their traditional bias" said Dr. Shiva Varan Sukla, one of the teacher participants of the refresher course on Darsanas conducted jointly by the Academic Staff College and the Department of Sanskrit of the University of Calicut. Twenty eight teachers drawn mostly from the universities of South India attended the Course. Dr. K.N.N. Elayath, Professor in the Department of Sanskrit coordinated the course.

All the Darsanas— both Vedic and non-Vedic—were covered. In addition, systems like Tantra, Saiva and Vyakarana were included in the syllabus. Participants actively took part in the discussions. All of them presented papers on one or other aspect of Indian Philosophy. Some of the papers on Nyaya and Vedanta were original, worthy to be published in the research journals.

Experts from different parts of India were invited as resource persons. Mostly the classes and discussions were held in Sanskrit and a few in English. The introductory classes were by Dr. Elayath on the problems of methodology and materials for the study of Indian Philosophy. The lectures highlighted the need for employing modern tools for study and research in Darsanas and also unfolded the immense possibilities of interpretations of our ancient systems.

Dr. S. Sankaranarayanan from Adyar, Madras gave a traditional exposition of the systems like Vaisesika, Sankhya and Yoga in six lectures. He explained the new trends of research in these systems. Dr. V.N.Jha, Director of the Advanced Study Centre in Sanskrit, Poona University delivered six lectures on Nyaya Philosophy concentrating mainly on the theory of relations and philosophy of language. The hard-core of Navyanyaya and its precise language of communication were explained by him in such a simple language that it turned the class into a "study of Nyaya without tears".

Professor R.V. Potti, a veteran scholar from Trivandrum gave four lectures on Advaita Vedanta basing mainly on the Brahmsutras and Advaita Siddhi. Some of the arguments of Advaita Siddhi, the great polemical work of Advaita, were explained by him in simple language so that even a layman could appreciate them. Another important item was the lectures delivered by Dr. Shanbhag from Dharwad. He dealt mainly on the basic doctrines of Dvaita Philosophy and highlighted its difference from other systems of Vedanta. A historical account of Lokayata, Jainism and Buddhism were also given by Professors Dr. N.V.P. Unithiri and Dr. C. Rajendran of the Sanskrit Department. The participants, on the whole, had an opportunity to learn all systems of Indian Philosophy within a short time.

IARI Convocation

The Union Minister for Human Resource Development, Mr. Arjun Singh cautioned scientists against blindly rushing into the domain of a global regulation for Intellectual Property Rights without knowing the ground realities. "The move to make the achievements of Indian Scientists as part of a world regime under Intellectual Property Rights may make us co-opt a set of conditions over which we have no control," he said while delivering the convocation address of the Indian Agricultural Research Institute (IARI) in New Delhi recently.

Referring to the role of agricultural scientists in the Indian context, Mr. Arjun Singh said there was no field of activity in the country where scientific application and research had resulted in tremendous progress as in agriculture. "The farmers have turned the soil in such a useful way that India will never go begging to the world."

Mr. Arjun Singh called upon the young students who received their degrees to carry forward the work they had done in the institute to the rural areas where 80 percent of the people were employed in agriculture.

Mr. Arjun Singh said the students should forever strive to translate their results in the laboratories nto the achievements of the farmers nd give them the breakthroughs hey need so that the country could roaden the base of its economy.

In his welcome address, Dr. S.K. inha, Director, IARI highlighted chievements of the Institute on rop improvement and management, particularly in rice and wheat, nd performance of parameters of gricultural implements.

The Dean of the Institute, Dr. N.N. Goswami said the Institute played a great role in establishing greater linkages with the universities in India and some of the international institutes of repute both in the developing and the developed countries.

As many as 175 students received Masters' and Doctor of Philosophy degrees at the 30th convocation of the Institute. This included 27 girl students.

Sambalpur Varsity Silver Jubilee

The Vice-President, Dr. Shankar Dayal Sharma, pleaded for upgrading the non-formal system of education to erase any misgivings about its quality. Addressing the valedictory function of the Sambalpur University's silver jubilee celebrations, Dr. Sharma said the distant mode of education should in no way be inferior to the formal system. However, he said an adequate range of non-formal educational institutions and courses of training might not materialise quickly or effectively without active participation of potential employers.

He suggested a joint approach by university authorities, sectors of industry, commerce, science, research establishments and state governments in designing course curricula and mobilising the necessary resources.

Dr. Sharma said care had to be taken to maintain a judicious balance between the teaching capacity and students strength and added that owing to the prevalent pressure of numbers, university authorities were finding it difficult to handle admissions.

Stressing the need for upgrading university curricula, he said, it was equally necessary that certain concepts concerning moral and ethical values were essential features of our cultural heritage.

BHU & CII to Collaborate

A meeting with a delegation of the Confederation of Indian Industry (CII) was recently arranged with the faculty members of Institute of Technology, Banaras Hindu University. The meeting was presided by the Vice-Chancellor of BHU, Prof. C.S. Jha.

The continuous monitoring and survey of advanced technology and upgradation of Indian Industry-Technology status report, student training, placement and industrial visits, exchange of faculty and industry executives on reciprocal basis, R and D facilities and sponsored assignment, consultancy services, conduct of workshops/refresher courses on technology and formation of technological park were the topics discussed during a day long deliberations. On the basis of the discussion, a memorandum of understanding (MoU) will be signed in the last week of March between CII and the IT-BHU.

However, it was decided during the meeting that five industrialist members of CII and faculty members of the Institute would visit Institute and industrial units of members every year. The exchange of documents, seminar proceedings and video cassettes and other relevant documents would be exchanged to build up a reference library.

Mid-Term Appraisal of Research Projects

Prof. C.S. Jha, Vice-Chancellor, BHU, recently inaugurated a group monitoring meeting of the various research projects conducted by the teachers-scientists of various universities. About hundred Principal co-ordinators of the research projects in subjects of genetics and bio-sciences participated for the mid- term evaluation of the projects in the three day meeting from all over the country. The meeting was sponsored by the University Grants Commission.

Prof. C.S. Jha in his inaugural remarks underlined the importance of impartial evaluation and constructive criticism.

The UGC's representative Dr. Jai Prakash called for the effective conduct of the projects within the sanctioned limit in view of resource crunch.

West Zone Elocution Contest

As part of the Centenary Celebrations of Bharat Ratna Dr. Babasaheb Ambedkar, the West Zone Inter-University Elocution Contest was organised by the University of Bombay, under the auspices of the Association of Indian Universities and the Ministry of Welfare, Govt. of India on February 8-9, 1992. 17 Universities of the West Zone from the States of Madhya Pradesh, Rajasthan, Gujarat, Maharashtra and Goa participated. The topics of the contest were (a) Dr. Ambedkar and the Agenda for Social Transformation;

(b) Dr. Ambedkar and the Indian Constitution; (c) Dr. Ambedkar and Peoples Education.

The panel of Judges recommended the following five students for the Inter-University National Elocution Contest to be held at Jamia Millia Islamia, New Delhi on 13-14 March, 1992 :(1) Samina Abdul Majid (Shivaji); (2) Sarita Gupta (Jodhpur); (3) Vrushali Pendharkar (Devi Ahilya); (4) Sandeep Singh Chauhan (Jiwaji); and (5) Himal Pandya (Saurashtra)

Dr. (Miss) M. D. Bengalee, Vice-Chancellor presided over the valedictory function while Shri Dadasaheb Rupwate, Chairman, Yeshwantrao Chavan Pratisthan, Bombay, gave away the certificates and mementoes to the participants and winning students.

Gandhian Research Institute

The Gujarat Government is reported to have decided to set up a Gandhian institute at Porbandar — the birth place of Mahatma Gandhi — for research and study on the life and philosophy of the Father of the Nation. This was revealed by Dr. Karsandas Soneri, the State Education Minister in Gandhinagar recently.

Admissions to IUCAA Graduate School

The Inter-University Centre for Astronomy and Astrophysics (IUCAA) invites applications for its graduate school leading to a Ph.D. in Astronomy and Astrophysics. Selection for the academic year 1992-93 will be made on the basis of a written test and interviews to be held in Pune sometime in early July 1992. The academic programme will commence with effect from August 16, 1992.

Selected students will undergo eight graduate courses in physics, astronomy and related areas for two semesters. Satisfactory completion of the courses and a project work shall allow students to register for a Ph.D. programme. The graduate courses will be organised in collaboration with the National Centre for Radio Astrophysics (NCRA) of the Tata Institute of Fundamental Research (TIFR), Pune Campus. The total duration of the programme including the graduate school will be 4 years.

The qualifications prescribed for the course is M.Sc. in physics/mathematics/astronomy or Bachelor's or Master's degree in engineering with adequate background in physics and mathematics. Candidates with an engineering background and interest in experimental physics are especially encouraged to apply. Candidates expecting to obtain their university degrees by July 1992 may also apply. The work leading to a Ph.D. will be quite demanding, and exceptional talent and motivation are needed to complete it successfully. All selected candidates will be required to clear the UGC/CSIR NET examination within one year of admission to the research programme, if they have not already done so.

Each selected student will be paid a scholarship as per the UGC norms. In addition, there will be a contingency grant of Rs. 7,500/- p.a. and other benefits including free accommodation. The continuation in the programme is however subject to satisfactory performance of the student every year.

Applications may be made in prescribed form which can be obtained by writing to THE COORDINATOR, CORE PROGRAMME, IUCAA, alongwith 24 x 11 cm self-addressed stamped (Rs.2.00) envelope and a brief profile of the past academic records and special training or scholarships the candidate has. The last date for the dispatch of forms from IUCAA will be March 31, 1992. Completed applications should arrive at IUCAA no later than April 15, 1992. Candidates called for written test and interviews will be paid 1.33 times the rail fare each way by ordinary II class and a sum of Rs. 35/- as halting allowance for the day of the test and interviews. A common test and interviews may be conducted for admission to IUCAA and NCRA (TIFR).

News from Agricultural Universities

Biotechnology Research Institute

The University of Agricultural Sciences, Bangalore, is planning to set up an applied biotechnology research institute at a cost of Rs. 22.2 crores. This was revealed by Dr. K. Krishnamurthy, Vice- Chancellor of the University in Bangalore recently.

The new research institute will be involved in the efforts for rapid multiplication of slow-growing horticultural crops, improvement of drought tolerant rice, tissue culture generation of medicinal plants, production of anti-bodies to detect diseased planting material, development of efficient strains of nitrogen-fixing bacteria and the development of improved bacterial strains for biogas generation using rural and urban wastes.

The Vice-Chancellor said that the fisheries college at Mangalore had been identified by the Overseas Development Administration (ODA), U.K., for technical cooperation and assistance. The ODA programme would aim at broadbasing the teaching and research facilities at the college, and strengthen several departments such as marine fishing technology, fish genetics, fishery nutrition and feed technology and fish pathology. Additional laboratories for specialised work will also be set up. The programme will get Rs. 47.50 lakh assistance from ODA, and it will provide opportunities for many researchers to get advanced training in the U.K., according to Dr. Krishnamurthy.

An ambitious collaborative project in post-harvest engineering is also coming up at the University with the assistance from the Canadian International Development Authority (CIDA). The five-year project costing about Canadian $ 1.34 millions would help in reducing the post-harvest food losses and in setting up post-harvest care technical centres at village levels to serve levels to serve the needs of local farming communities, cooperatives, agro-industries and the seed industry.

The University has another collaborative programme with the Tata Institute of Fundamental Research, Bombay, to set up a centre for fundamental research in biological sciences. The centre will promote basic research in modern biology and bio-technology.

In collaboration with the Centre for Technology and Development, the University has a special project on food processing technology, post-harvest processing of horticultural produce and dryland development. 'For food processing and post-harvest technology for horticulture produce over Rs. 40 lakhs would be spent, and the cost of the dryland development programme is Rs. 30 lakhs,' said Dr. Krishnamurthy.

Bluetongue Virus Project

The Indian Council of Agricultural Research (ICAR) and United States Development Agency(USDA) have sanctioned a project entitled "Studies on Epidemiology and immunobiology of bluetongue virus" worth Rs. 26.54 lacs under PL-480 scheme to the Chaudhary Charan Singh Haryana Agricultural University, Hisar.

Bluetongue is an infectious disease widely prevalent in Indian ruminant livestock carrying heavy economic losses to the livestock industry every year. In their research work, these scientists have successfully isolated for the first time the deadly bluetongue virus from affected sheep and identified the factors responsible for its transmission. Under this scheme, the scientists will conduct a survey of bluetongue virus in affected animals in different domestic ruminant livestock in five states viz. Haryana, Punjab, Rajasthan, Himachal Pradesh and Jammu and Kashmir of northern India.

According to Dr. R.N. Srivastava, Professor and Head, Department of Vet. Microbiology, this biggest project on bluetongue virus has been sanctioned to HAU team in the country for the first time. The studies conducted by these scientists under this project will go a long way in developing an effective strategy for control of this deadly livestock disease.

News from UGC

Countrywide Classroom Programme

Between 10th March to 16th March 1992 the following schedule of telecast on higher education through INSAT-1D under the auspices of the University Grants Commission will be observed. The programme is presented in two sets of one hour duration each every day from 1.00 p.m. to 2.00 p.m. and 4.00 p.m. to 5.00 p.m. The programme is available on the TV Network throughout the country.

Ist Transmission

1.00 p.m. to 2.00 p.m.

10.3.92

"Nomenclature of Organic Compounds-II"

"Is Tense System in English A Problem?"

"Dinosaur-IV: The Dinosaur with Wings"

11.3.92

"N.D.T.IV: Radiographic"

"Fragments from the Past: National Archives-II"

"Nerve Transmission"

12.3.92

"Electronics-I: The History of Electronics"

"Self Development-I"

"History and Literature Common Meeting Grounds"

13.3.92

"Sarvam Saha: Echoes from the Work Site"

"Towards the Mystries of Life"

"Effects of Noise Pollution on Health"

14.3.92

"Camping with Science-II"
"Berlin: Blackade & Air Lift"
"The Week Ahead"

15.3.92

No Telecast

16.3.92

"Angular Momentum-II: Free Rotation of A Rigid Body"
"Management-X: Management Information System"
"Saga of Silk-I: Legends and Development"

IInd Transmission

4.00 p.m. to 5.00 p.m.

10.3.92

"The World of Complex Compounds"
"Using Audio Visuals"
"Birth Defects: Prevention and Treatment"

11.3.92

"Nuclear Energy"
"The Great Encounter-II Victoria Ocampo and Tagore"

12.3.92

"Global Perspectives on Nutrition"
"Preserving a legacy"
"All My Sons: Critical Appreciation"

13.2.92

"Fundamentals of Mechanics-I"
"Indian Immigrants in USA"
"Fathomless Folklore"

14.3.92

"Science of Musical Instruments-I"
"Into a New Century"
"The Week Ahead"

15.3.92

No Telecast

16.3.92

"Remote Sensing-XXIII: Summing Up"
"Management-VI: Organisation Methods"
"College that Goes to People"

News from Abroad

Booking for Teachers

Students at Itlay's oldest university, the University of Bologna, will have the opportunity to report absentee lecturers and "arrogant" teaching on a telephone straight to the rector's office The rector, Fabio Roversi Monaco, has approved the plan by the region's young Socialist movement to combat one of the most widespread problems in the Italian university system.

Students have long complained of waiting in vain for lectures to begin and for teachers to receive them. Others claim they are mocked and offended during examinations, which take the form of short interviews. In response to these complaints, Professor Roversi Monaco has arranged for the hotline to be set up in a room in his office. Students will pass complaints to the rector, who will decide whether to take disciplinary measures. The findings will not be made automatically public, but callers will have to specify their name and faculty.

"Italian lecturers work less than their European colleagues, they are less available," said Professor Roversi Monaco. "Many of them tend to do their duty very hastily, as if it were sufficient to lecture and run away. Besides those, there is a small minority that neglects its basic duties."

Students have also been complaining of chronic lateness and a production-line approach to conducting examinations, as well as reporting some episodes of offensive behaviour. "If I give you the top mark, what will you give me in exchange?", one Bologna professor is alleged to have asked a female student who promptly reported him to the dean.

"We have heard of many cases of humiliation," said Andrea Ghiaroni, a spokesman for the university young socialists."Some examinees have their mark books flung on the floor by angry teachers.

"I myself heard a professor ask a student: 'Did you read my book on the lavatory or under the beach umbrella?" Mediocre candidates are sometimes advised 'to go and hoe the land' instead of attending university."

The most common complaint regarding teacher negligence concerned students being failed after being asked just one question in an examination.

Professor Roversi Monaco has already gone on record in deploring cases of absenteeism and has cautioned guilty professors.

BHU Hosts National Youth Festival

The Banaras Hindu University rganised the Inter-University Naonal Youth Festival from January 2-26,1992 under the auspices of the ssociation of Indian Universities. Over 800 youth artistes and officials epresenting 43 universities paricipated in the Festival at which culural items of music, dance, theatre, iterary activities and fine arts were resented.

While Prof. P.K. Tikoo, Cultural Coordinator and Dean of Students, Banaras Hindu University, welcomed the participants to the University, Prof. S. K. Agrawala, Secretary, Association of Indian Universities, welcomed the participants on behalf of the Association. He thanked the Banaras Hindu University for having hosted a Youth Festival for the third year in succession. Prof. Agrawala outlined the theme of the Youth Festivals emphasising the objectives of promoting cultural integration, harmony and providing a forum for flowering of the creative genius of the Indian Youth. Sri Rohit Mehta, a renowned theosophist, who was the chief guest, welcomed the organisation of the Youth Festival at Varanasi, and exhorted the youth the take from there a message of unity and integration. Prof C. S. Jha, Vice-Chancellor, Banaras Hindu University, in his welcome address wished all success to the participants and to the festival as a whole.

As part of the inaugural function, Padam Shri N. Rajam presented an enthralling violin recital. She presented the famous Bhajan 'Vaishnav Janto' followed by Des Raag. She played a Dadra, typical to the Banaras Style.

The competition in classical Indian Vocal (Solo) opened with Alapanam in Rag Darbari by Mahatma Gandhi University, Vilambit ek taal and drut teen taal by DEI, Agra and Bhaj Man Nit Hari Ko Naam in raag Hansadhwani by Bombay University. This was followed by sitar recital by GNDU and Bombay, raag Malkauns on Violin by BHU and raag Kinwani on Sarod by IKSVV, Khairagarh.

In the classical dance competition 'Mangalacharna' was presented by Berhampur University, followed by an abhinaya from Geeth Govindam and the Moksha Nata. Kuchipudi, the traditional dance of Andhra Pradesh was performed by Mahatma Gandhi University. The Kathak performance came from IKSVV, Khairagarh. This was followed by Western group songs. In this event Nagpur University presented 'Sing' by the carpenters and 'Holi-Holi Day' by Boney M. Mahatma Gandhi University came next with 'California Dreaming', "Chasing Shadows" and Simon and Gavfunker's "Wake up little Susie". Their performance was amongst the best. Bombay University presented the off beat "Caravan of Love" and the Boy George-Asha Bhosle Fashion "Bow Down Mister", BCKVV did "Dream Dream Dream" (Everly Brothers) and Cotton Fields (CCR).

'National Integration', 'National Youth Festival' and 'General Elections' were the topics projected at the cartooning section contested by participants from BCKVV, BHU, GNDU, Andhra Univ., IKSVV and Bombay Varsity.

The One Act Plays started with 'Andher Nagari', staged by Patna University. It was an adaptation of Bharatendu Harish chandra's well known play. Satya Katha presented by GNDU was another play in the tradition of Bharatendu's Bharat Durdasha, depicting continuing struggle against foreign invasion, internal dissensions and corruption in different forms. Bombay University's Kayani was a Marathi Play about the continuous exploitation of nomadic tribes of Maharashtra by the wealthy and landed.

The Light Vocal Solo competition commenced with a Soordas Bhajan 'Akhiayan Hari Darshan in Pyasi' by Berhampur University followed by a Ghazal 'Dil ki baat labon par la kar' by MDU, Rohtak. In the group vocals session the Ravishankar University presented 'Sukh Shantimay Sansar Ho' extolling peace an harmony in the world. Their next presentation was a Chattisgarhi folk song — a Karma song. The next group song was by Kerala University, who presented a song about the six seasons, followed by a ceremonial folk song in melodious unison.

The next event was the folk/tribal dances. IKSVV, Khairagarh presented the 'Gond' tribal dance 'Saila-Reena-Hirki'. This dance is to worship their Goddess after the rainy season, and features colourful costumes and ornaments, and exotic instruments. The performers synchronized their movements well. The Koya dance by Telugu University, Hyderabad, came next. This dance is to please their Goddess at the time of the harvest. The male performers wear bison horns and peacock feathers, and the females, ordinary clothes. Gauhati University did the Bihu folk dance. It is a courtship dance performed by young boys and girls, during Bahag Bihu, a spring time Festival, and is usually accompanied by a love song. Notable features were the use of the 'pepa' — a wind instrument, and the unhibited performance of the artistes. RDU, Jabalpur performed a folk dance of Rajasthan, in which rural women danced together after the day's labours. The Karagam dance by Bharathidasan University, saw many feats of balance by the artistes. They all had pots on their heads and their agility was worth watching. Bharathidasan University also featured 'Dummy Horse' dance in their performance. PAU, Ludhiana presented the 'Bhangra'.The Bhangra is a dance to celebrate a good harvest. Drumbeats and a singer regulate the dancers' steps.

The skits featured varied themes. Gauhati University enacted 'The Monkey'. A human, frustrated with life, makes a contract with a monkey to temporarily exchange roles, but when the monkey comes to him to regain his simian form, the man prefers to remain a monkey and betrays the monkey. DEI, Dayalbagh came next with 'Images 91' a satirical version of Doordarshan's 'Charchit Chehre'. Kerala's 'Bhartiyam' was again based on national integration. Ravindra Bharati did 'Karishma' which even featured pyrotechnics.

National Integration was the theme at the Mime, the enactment of an idea through gestures. The programme commenced with a solo performance, 'Love is a hurdle race', by Gauhati University portraying a young man who overcomes all obstacles to meet his lady love. 'March Past' was presented by Bangalore University. The session concluded with HAU, Hisar's piece, 'Mere Desh Ki Dharti', inspiring us to rise above the disruptive forces of religious fundamentalism and become one.

A Seminar on 'Role of the Inter-University Youth Festival in Promotion of Human Values and National Integration, was also organised on the occasion. Mr Sampson David, Senior Cultural Officer, AIU, explained the basic purpose of Youth Festivals viz. national integration, promotion of atmosphere of friendship and stressed the need for scholarships and other promotional methods for outstanding artists.

Mr. M. M. Rajendran, Secretary, Department of Youth Affairs , who was the chief guest at the function, was appreciative of the proper fund utilization at Youth Festivals. He promised to arrange better funding for wider participation in the festivals and consider scholarship and various other concessions for deserving artists. At the valedictory function, the overall championship was presented to the Bombay University while the runners up championship was bagged by the MG University, Kottayam & IKSVV, Khairagarh. The participants were given gold medals and certificates.

INTER-UNIVERSITY NATIONAL YOUTH FESTIVAL

RESULTS

1. MUSIC

(a) **Classical Vocal (Solo)**
(Hindustani/Karnatic)

I	University of Bombay
II	Ravindra Bharati University, Calcutta
III	M.G. University, Kottayam
IV	Bidhan Chandra Krishi Vishwavidyalaya

(b) **Classical Instrumental Solo (Percussion)**

I	Telugu University, Hyderabad
II	Devi Ahilya Bai Holker University, Indore
III	Rabindra Bharati University, Calcutta
IV	Banaras Hindu University

(c) **Classical Instrumental Solo (Non-Percussion)**

I	Banaras Hindu University
II	Calicut University
III	Patna University
IV	I.K.S.V.V., Khairagarh

(d) **Light Vocal (Indian)**

I	Berhampur University
II	Amravati University
III	Mahatma Gandhi University, Kottayam
IV	Rabindra Bharati University, Calcutta

(e) **Western Vocal (Solo)**

I	ISM, Dhanbad
II	University of Bombay
III	Devi Ahilya Vishwavidyalaya, Indore
IV	Bharathidasan University, Tiruchirapalli

(f) **Group Sons (Indian)**

I	Ravishankar University, Raipur
II	Banasthali Mahila Vidyapeeth
III	University of Bombay
IV	DEI, Dayalbagh, Agra

(g) **Group Song (Western)**

I	Mahatma Gandhi University, Kottayam
II	ISM, Dhanbad
III	Bharathidasan University
IV	University of Bombay

2. DANCE

(a) Folk/Tribal Dance

I	Bharathidasan University, Tiruchirapalli
II	Gauhati University
III	PAU, Ludhiana
IV	Telugu University, Hyderabad

(b) Classical Dance

I	Mahatma Gandhi University, Kottayam
II	University of Kerala, Trivandrum
III	University of Bombay
IV	IKSVV, Khairagarh

3. LITERARY EVENTS

Quiz

I	Mahatma Gandhi University, Kottayam
II	University of Kerala
III	Amravati University
IV	Goa University

4. THEATRE

(a) One Act Play

I	University of Bombay
II	Banaras Hindu University
III	Patna University
IV	MDU, Rohtak

(b) Skits

I	Gauhati University
II	DEI, Dayalbagh, Agra
III	Rabindra Bharati University, Calcutta
IV	University of Bombay

(c) Mime

I	GNDU, Amritsar
II	Bhavangar University
III	Bharathidasan University, Tiruchirapalli
IV	Gauhati University

5. FINE ARTS

(a) On the Spot Painting

I	Rabindra Bharati University, Calcutta
II	Utkal University, Bhubaneswar
III	Marathwada University
IV	Nagpur University

(b) Collage

I	Berhampur University
II	Patna University
III	Vikram University, Ujjain
IV	IKSVV Khairagrh

(c) Poster making

I	Nagpur University
II	Banaras Hindu University
III	IKSVV, Khairagarh
IV	Patna University

(d) Clay Modelling

I	Utkal University
II	Patna University
III	Bharathidasan University
IV	Andhra University

(e) Cartooning

I	Banaras Hindu University
II	BCKVV (West Bengal)
III	University of Bombay
IV	GNDU, Amritsar

(f) Rangoli

I	Andhra University
II	Bhavnagar University
III	Berhampur University
IV	Utkal University, Bhubaneswar

CHAMPIONSHIPS

Music Championship	Univ. of Bombay	I
	MG University, Kottayam	II
Dance Championship	Bharathidasan Univ., Tiru.	I
	Gauhati University	II
Literary Events	MG University, Kottayam	I
	University of Kerala	II
Theatre Championship	University of Bombay	I
	Gauhati University	II
Fine Arts Championship	Utkal University	I
	Patna University	II
	Banaras Hindu Univ.	II

Over all Championship: Univ. of Bombay

Runners Up MG University, Kottayam

BOOK REVIEW

Pt. Bhatkhande's Fights and Fruits

R.C. Mehta*

Sobhana Nayar. Bhatkhande's Contribution to Music. Bombay, Popular Prakashan, 1989. Pp. 362. Rs. 200/-.

It is difficult to imagine what would have been the state of legacy of the art music of North India, practised by some of our greatest of musicians of the nineteenth century, if a person of the calibre of Pandit Bhatkhande (1860-1936 A.D.) did not appear on the scene, and devote his entire life to the study and propagation of Indian music.

While in college, Bhatkhande had his training in Sitar, and later, in Dhrupad-s from Shri Ravjibhai Balbagkar and in Khayal-s from Ustad Ali Husein, Ustad Vilayat Husein, Ustad Mohammad Husein, and also from Ustad Vizirkhan of the Tansen tradition at Rampur, equipping himself in Hindustani classical music. He set himself to the task of researching and coordinating the practice and theory of music, leading himself to a systematic study of ancient and medieval literature on music. He toured throughout India, searched through private and public libraries; collected and published many important works. As a result of his studies, he propounded a rational theory of music for contemporary practices in North India, detailed in his magnum opus, *Hindustani Sangeet Paddhati* in four volumes. He devised a graded system of education in music for institutional teaching, the impact of which can be gauged from the sprouting of thousands of small music classes, and music institutions, and from the introduction of music in schools, colleges and universities, during the last 50 years. The credit for this growth is to be apportioned between Bhatkhande and Vishnu Digambar; however, the formidable task of constructing afresh, an edifice out of the contemporary oral tradition of art music, on the basis of postulates in the classical texts on music was accomplished, mainly by the scholar-researcher Pandit Bhakhande. He set to musical notation and published about 1200 classical music compositions (Cheeja-s), collected from various oral traditions of music (Gharana-s), countering much opposition and innumerable difficulties. He reorganised music education at Baroda and was mainly responsible for founding new schools of music at Gwalior and Lucknow.

Sobhana Nayar, the author of the book under review, had a limited scope for finding source material, reaching hardly beyond the two books mentioned by her, viz. *Pandit Bhatkhande* by S.N. Ratenjanker and the more exhaustive one, in Hindi, viz *Bhatkhande Smriti Grantha*, by Prof. P.N. Chinchor. It is evident from the references quoted at the end of several chapters, that the author has adopted in English so much from Chinchore's voluminous book in Hindi. A number of books are listed in the bibliography, but the references (footnotes) are hardly indicative of their use by the author. (This type of delinquency is noticed in many theses, where one finds long lists of books and articles mentioned under "Bibliography", or "Reference Materials", only to project an estimation that so much material has been consulted by the researcher).

The contents have been well organised. Part One is devoted to "The Parameters" (The Age of Bhatkhande, The State of Contemporary Music, Bhatkhande's Special Mental Make-up), Part Two, to "His Contributions"(The Framework and the Perspective; Collecting the Scattered Treasure; Providing the Theoretical Framework; Training in Music — His Methodology; As a Composer; Music Conference as a tool and Strategy; Forming a Notation System; Overcoming Social Taboos), and Part Three, to The Parting Milieu(His Contemporaries; Conclusion). The "Glossary" and "Index" increase the utility of the book.

While the 13th Chapter, titled, "Conclusion", may fit in a format of a Ph.D. thesis, in a book like this, it is repetitive and hence redundant. Pt. Bhatkhande did attract criticism, apprisement and non-acceptance of some of his theories by some of his contemporaries and some later thinkers. An inclusion of or a review of such differing perceptions would have enriched the utility of the book.

On page 325, under the section devoted to "Musicians who impressed Bhatkhande" the author lists, Vishnu Digamber Paluskar. — Pt. Vishnu Digamber — an equally great contemporary of Pt. Bhatkhande, — but, as far as I know, there is no document or any obser-

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Jambu Bet, Dandia Bazar,
Baroda-390 001.

vation by any one, that would permit inclusion of Pt. Vishnu Digamber in such an accounting by Bhatkhande. And the list is too short : Sadat Ali Khan (Sursingarl), Vazir Khan (Rampur), Mianjan Khan were some of the top level musicians of the times Bhatkhande considered as the most accomplished Ustads, of high 'Gharana' tradition. The author mentions, in the last para of her introduction, titled, "A Hope : It (The book), also aspires to present music as an important component of the social, economical, political and cultural spectrum of national life, acting and inter-acting with the other components, and thereby bring out the importance of an inter-disciplinary approach". This task, is a challenging one. A cultural history of music, of post-mughul period, with music as its main concern and placed within the context of socio-economic frames, is still to be written. Bhatkhande's fights and fruits are to be perceived within this parameter. It is hoped subsequent writings on Bhatkhande will take on hand critical evaluation of Pt. Bhatkhande's works, and thereby deepen our understanding of music itself.

The merit of the book lies in writing in English, much of the data and criticism available only in Hindi, – and otherwise not accessible to non-Hindi readers, and researchers in music.

The book is a welcome addition in literature on music in English.

CALENDAR OF EVENTS

Proposed Date of the Event	Title	Objective	Name of the Organising Department	Name of the Organising Secretary/ Officer to be Contacted
March 9-15, 1992	International Conference on Experiential Learning	To promote experiential learning and other scientific, educational, cultural and related activities and spiritual pursuits	Indian Society for Experiential Learning, Pondicherry	Prof. S. Mohan, Prof. of Physics, Pondicherry University, Pondicherry
August 11-16, 1992	8th World Congress for Rural Sociology	Theme : Rural Society in the Changing World Order	International Rural Sociology Association, USA	The Pennsylvania State University, 306, Agricultural Administration Buliding, University Park, Pennsylvania - 16802
August 16-19, 1992	55th Annual Meeting of the Rural Sociological Society	Theme : Rurality and the Global Environment	Rural Sociological Society, USA	-do-
August 26-28, 1992	Second International ISKO Conference on Cognitive Paradigms in Knowledge Organisation	To provide a forum for scholars working in the field of knowledge organisation	Madras Library Association in collaboration with Sarada Ranganathan Endowment for Library Science and University of Madras	Mr. S. N. Kumar Conference Secretariat, 5, Sivaganga Road, Madras-600 034
October 26-31, 1992	Third IAU Mid-Term Conference to be held at Alexandria, Egypt	Theme:Adaptation of University Management Structures and Strategies for New Requirement	International Association of Universities (IAU), France	Dr Franz Eberhard, Secretary General, International Association of Universities, 1, rue Miollis, 75732 Paris Cedex 15 France
November 9-13, 1992	16th World Conference on Distance Education for the Twenty-First Century	To give a view of the aspects of development in Distance Education in the Twenty-First Century	International Council for Distance Education, in cooperation with Sukhothai Thammathirat Open University (STOU), Thailand	Mr. Bruce Scriven, Program Chair – 16th World Conference of ICDE, Queensland University of Technology, Locked Bag No. 2, Red Hill Queensland 4059, Australia

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THESES OF THE MONTH

A list of Doctoral Theses accepted by Indian Universities

HUMANITIES

Philosophy

1. Chattopadhyay, Supriya. **Proposition and fact.** Calcutta.

2. Mukesh, Ragini. **The problem of justification of induction.** NBU.

3. Mukhopadhyay, Kishore Kumar. **A study of the relationship between certain child rearing variables and creativity.** Burdwan. Dr Pranab Kumar Chakraborty, Former Reader, Department of Philosophy, University of Burdwan, Burdwan.

Religion

1. Singh, Ram Nandan. **From Hinayana to Mahayana: A study in the historical developments.** Jammu. Dr R K Mishra, Reader and Head, Department of Buddhist Studies, University of Jammu, Jammu.

Fine Arts

Drawing & Painting

1. Basak, Sohini. **Landscape as expression in Indian traditional painting.** Visva-Bharati. Dr Jayanta Chakraborti, Department of History of Art, Kala-Bhavana, Visva-Bharati, Santiniketan.

2. Chatterjee, Shreyasi. **Portraiture in Indian style of painting.** Visva-Bharati. Dr Jayanta Chakraborti, Department of History of Art, Kala-Bhavana, Visva-Bharati, Santiniketan.

Wood Work

1. Kar, Santosh Kumar. **Artistic wood work: A technical study in Indian context.** Visva-Bharati. Dr Jayantha Chakraborti, Department of History of Art, Kala-Bhavana, Visva-Bharati, Santiniketan.

Music

1. Biniwale, Ganpat Rao. **Kumar Gandhrva kee gayaki shaili mein lok tatha shastriya sangit ke srijnatmak tadakar ka swaroop.** Vikram. Dr P N Chinchore, 157, Shrinagar Colony, Nagpur.

2. Ghosh, Madhabi. **Folk songs of Birbhum.** Visva-Bharati. Dr Sitansu Roy, Sangit Bhavana, Visva-Bharati, Santiniketan.

3. Majumdar, Mukta Sudhindra. **Begum Akhtar Hagu avara sangeeta sadhane.** Karnatak. Dr B D Pathak, Reader, Department of Post Graduate Studies in Music and Fine Arts, Karnatak University, Dharwad.

4. Omchery, Deepti. **Sopana music of Kerala.** Delhi.

5. Tyagi, Manjusree. **Significance of compositional forms in Hindustani ragas.** Delhi.

Language & Literature

1. Rechal, C Silvia. **Testing and evaluation in second language teaching.** Madurai.

English

1. Barbora, Tondra. **The poetry of the thirties: A study in social**

perspective with special reference to Auden, Day Lewis and Spender. Gauhati. Dr Prafulla Kotoky, Prof, Department of English, Gauhati University, Guwahati.

2. Chakranarayan, Mohini. **A study of the stylistic features of the novels of Anita Desai.** Durgawati. Dr (Smt) V Chouhan, Principal, Mankuwar Bai Arts and Commerce College, Jabalpur.

3. Gnenepragasam, Amaladoss. **The themes of alienation suffering and guest elements and literary artistry in works of Franz Kafka.** Madurai.

4. Indira Rao, T. **A study of the war poetry with special reference to Siegfried Sassoon Osbert Sitwell and Wilfred Owen.** Nagpur. Dr P S Sastri, Ex Head, Department of English, Nagpur University, Nagpur.

5. Kanaka Durga, S. **A critical assessment of the Chicago School of critics.** Sathya Sai. Prof (Mrs) Zeba Bashiruddin, Head, Department of English, Sri Sathya Sai Institute of Higher Learning, Prasanthinilayam.

6. Mythili, M. **Somerset Mougham and Chandilyan.** Madurai.

7. Padhy, Uma Sankar. **Absurd tradition and its impact on modern Indian plays in English.** Berhampur. Dr M K Chakravarty, Prof (Retd), 4R/7, Unit-VIII, Bhubaneswar.

8. Rafathunnisa Ali. **Marginality in South African fiction: A study of the novels of Es'Kia Mohablete Nadine Gordimer and Alex La Guma.** Osmania.

9. Selvaraj, Adaline F. **Fatalism in Erskine Caldwells cyclorama of the South.** Madurai.

10. Singh, Prabhat Kumar. **Dynamics of poetry in fiction.** Magadh.

11. Varghese, Salim. **Phallic consciousness in D H Lawrence's novels.** Patel. Prof D S Mishra, Head, Department of English, Sardar Patel University, Vallabh Vidyanagar.

Russian

1. Malviya, Pankaj. **Literary trends in pre-revolution Russisn literature and their Hindi counterparts: A typological study.** Delhi.

Sanskrit

1. Datta, Tripti. **The basic principles of legal administration in Ancient India as known from the Dhamasastras and early Dharmasastras.** Calcutta.

2. Khampariya, Ram Kumar. **Unnisvin evam beesvin shatabdi ke Sanskrit mein rachit kavyashastriya granthon ka sameekshatmak adhyayan.** HS Gour. Dr Asha Sarvate, Department of Sanskrit, Dr Hari Singh Gour Vishwavidyalaya, Sagar.

3. Laxmi Devi. **Nyaya Pravasa-sutram-eke smeekshatmaka adhyayana.** Kurukshetra.

4. Mishra, Awadhesh Kumar. **Raghuvansh evam Janaki Haran kee tulnatmak sameeksha.** Durgawati. Dr R B Dwivedi, Department of Sanskrit, Rani Durgawati Vishwavidyalaya, Jabalpur.

5. Pandey, Ram Ratan. **Aprapta Sanskrit natak.** HS Gour. Prof R B Tripathi, Department of Sanskrit, Dr Hari Singh Gour Vishwavidyalaya, Sagar.

6. Pathak, Niranjan Jayantilal. **Bhas ni natyakrutioma manovignanik alekhan.** Bhavnagar. Dr J A Bhatt, Lecturer (Retd), Samaldas Arts College, Bhavnagar.

7. Pati, Debaprasad. **A comparative study in the source and deviation of Kalidasa's dramas.** Calcutta.

8. Srivastava, Veena. **Balmikiya Ramayan kee prishth bhoomi mein nari patra.** Magadh.

Hindi

1. Abdul Rahim. **Krishan kavya mein Bhavatmak ekta.** Jamia. Prof Mujeeb Hussain Razvi, Department of Hindi, Jamia Millia Islamia, New Delhi.

2. Benipuri, Kalpna. **Sohanlal Dwivedi ke kavya mein rashtriya chetna.** Bihar. Dr Parbha Benipuri, Department of Hindi, R B B M College, Muzaffarpur.

3. Chakraborti, Bandanarani. **Ramcharitmanas mein manav mulya.** Calcutta.

4. Dhanda, Monica. **Samkaleen Hindi natakon mein nari kee vibhinn bhumikayen.** Punjabi. Dr (Mrs) Shanta Lamba, Reader, Department of Hindi, Punjabi University, Patiala.

5. Lala, Nirmala G. **A comparative study of Mira and Narsinh's Krishna bhakti poetry.** Saurashtra. Dr M M Vyas.

6. Pathak, Meera. **Malik Mohmmad Jaisi ke kavya mein prem aur saundarya.** Vikram. Dr Shiv Chorasia, Department of Hindi, Sandeepani College, Ujjain.

7. Ragit, Shobha Wasudeorao. **Bhakta Tulsidas krit Ramcharit Manas evam Sant Eknath krit Bhavarth Ramayan ka tulnatmak adhyayan.** Nagpur. Dr Ghanashyam Vyas, Department of Hindi, Nagpur University, Nagpur.

8. Sharma, Ram Kumar. **Vakrokti sidhant ke priprekshya mein ritikaleen ritimukt kavya ka adhyayan: Ghananand Alam, Bodha aur Thakur ke vishesh sandarbh mein.** Kurukshetra.

9. Sharma, Umesh Prasad. **Nagarjun aur Fanishwarnath Renu ke upanyason mein abhivyakt janjeevan ka tulnatmak adhyayan.** JNU. Prof (Mrs) S Chandra, Centre of Indian Languages, Jawaharlal Nehru University, New Delhi.

Urdu

1. Aqil Ahmad. **A critical analysis of Josh Malihabadi's poetry.** JNU. Prof S R Kidwai, Centre of Indian Languages, Jawaharlal Nehru University, New Delhi.

2. Gupta, Kuldip Kumar. **Symbolism in twentieth century Urdu prose upto 1980.** Jammu. Dr Zahur-ud-Din, Lecturer, Department of Urdu, University of Jammu, Jammu.

3. Jugal Kishore. **Syed Masuod Hussain Razvi Adib as a researchist.** Jammu. Dr I U Manzar Azmi, Reader, Department of Urdu, University of Jammu, Jammu.

4. Khan, Nasreen Rais. **A critical study of the imagery of Josh Malihabadi.** Delhi.

Bengali

1. Biswas, Achintya. **Lochandaser Chaitanyamangal-O-Padavali: Bishleshan-o-alochana.** Burdwan. Prof Bijit Kumar Datta, Department of Bengali, University of Burdwan, Burdwan.

2. Choudhury, Shigdha. **A critical study of Shri Shri Ramkrishna Kathamrita.** Gauhati. Dr Dipak Sen, Reader, Department of Bengali, Gauhati University, Guwahati.

3. Ghosh, Kabita. **Khristiya saptadash sataker Bangalir samaj-o- sahitya.** Calcutta.

4. Mukhopadhyay, Paritosh. **Bangla sahitya anagrasar shrenee.** Rabindra Bharati.

Oriya

1. Dash, Utpala. **Oriya kshudragalpare prayogabada.** Sambalpur. Dr R N Nayak, Reader, Department of Oriya, G M College, Sambalpur.

Gujarati

1. Pandya, D M. **Short stories of Pannalal Patel: A critical study.** Saurashtra. Dr H G Desai, Reader, Department of Gujarati, Saurashtra University, Rajkot.

Arabic

1. Khan, Manzoor Ahmed. **Jurji Zaydan as a historical novelist:**

A critical study. CIEFL. Dr (Mrs) Ismat L Mehdi, Department of Arabic, Central Institute of English and Foreign Languages, hyderabad.

Tamil

1. Dhakshinamoorthy, V. **Sivathandava moorthangalin thathuvangal.** Madurai.

2. Ganapathy, V S. **Varadhakshinai kutrangalum thamizh kadhai elakhiyamun.** Madurai.

3. Murukesan, R. **Alaugaram aru boodhiyil arunagirinadhan aru boodhiyil thathuvamum.** Madurai.

4. Muthukumaraswamy, R. **Thiruvallavar vagitha padhu neri-oru oppaivu.** Madras.

5. Rajagopalan, N. **Tamil official language: Problems and solutions.** Madras.

6. Subramanian, S. **Supernatural in Tamil epics.** Madras.

7. Sudalaiyandi, M M. **Sundarar devarathill Konappadum elakhiak kolgaigal.** Madurai.

Telugu

1. Vijaya Lakshmi, P. **Heroines in Telugu poetic works upto 16th century.** Osmania.

Geography

1. Banerjee, Manoranjan. **Interrelationships between socio-economic conditions, levels of education and growth of population: A study in Birbhum District, W Bengal.** Visva- Bharati.

2. Emmanuel, Dandi David. **Evaluation of resources and land use planning: A case study of Narsipatnam and Kotauratla Taluks of Visakhapatnam District, Andhra Pradesh, India.** Andhra.

3. Mohanty, Manoranjan. **Geography of urban crisis and conflicts in the Third World: A comparative study of Calcutta and Dhaka.** JNU. Prof R C Sharma, Centre for International Politics, Organisation and Disarmament, Jawaharlal Nehru University, New Delhi.

4. Ramesh, Yenduru. **Geomorphic studies in the Upper Gosthani River Basin with special reference to Borra (Karat) Caves Visakhapatnam District, Andhra Pradesh, India.** Andhra.

5. Tiwary, Kamalakar. **Land utilisation in Ballia District, U P.** Magadh.

6. Zanganeh, Abdol Hossein Pari. **Environment and development of Chhota-Udaipur Taluka, Vododara District, Gujarat.** Baroda.

History

1. Ahmed Ali. **Kachhapghat art in Central India.** Vikram. Dr K C Jain, Mohan Niwas, Dewas Road, Ujjain.

2. Bhattacharjee, Manjulika. **Nationalist movements in Cachar Valley, 1857-1947.** NEHU. Prof J B Bhattacharjee, Department of History, North-Eastern Hill University, Shillong.

3. Buragohain, Jaya. **The aitons in transition: A study.** Gauhati. Prof J N Phukan, Department of History, Gauhati University, Guwahati.

4. Dhingra, Jyoti. **The Congress and the partition of India, 1940-47.** Kurukshetra.

5. Dubey, Vineet Kumar. **Mandala Jile mein swatantrata sangram ka itihas.** H S Gour. Dr S S Chouhan, Department of History, Govt Post Graduate College, Naringhpur.

6. Gousalya, S. **A comparative study of Gandhi and Kamaraj.** Madurai.

7. Iqbal Sabir. **The life and times of Shaikh Ahmad Sirhindi.** AMU. Prof K A Nizami.

8. Jafri, Syed Masood Hasan. **The role of Maharaja Kishen Parshad in modern Hyderabad, 1864-1940 A D.** Osmania.

9. Janaki, D. **History of forest administration in Tamil Nadu from 1935-1967.** Madras.

10. Lalitha, P M. **The feudatories under the nayaks of Madurai.** Madurai.

11. Lochan, Amarjiva. **India and Thailand: A study in acculturation.** Delhi.

12. Louis Roche E. **History of the Latin Catholic Community in Kerala, 1498-1653.** Kerala. Dr K K Kusuman, Reader and Head, Department of History, University of Kerala, Kariavattom.

13. Padhi, Braja Kishore. **Modern history of Kahriar.** Sambalpur. Dr S C Panda, Reader, Department of History, Sambalpur University, Jyoti Vihar, Burla.

14. Rathiesh Retnam, A. **Local Government in mediaeval Tamil Nadu, with special reference to the Sabha, the Ur and the Nadu.** Madurai.

15. Rosanga, Orestes. **The economic history of Mizoram from 1900-1940.** Delhi.

16. Sahay, Krinwant. **Problems of national integration in Malaysia, 1969-78.** JNU. Dr B D Arora, Centre for South-East Asian and South-West Pacific Studies, Jawaharlal Nehru University, New Delhi.

17. Sahi, Shamsher Singh. **Library education and professional development in J & K: A historical study.** Jammu. Dr Y B Singh, Reader, Department of History, University of Jammu, Jammu.

18. Selvaraj, P. **Agrarian life in Ancient Tamil Country upto 1070 A D.** Madurai.

19. Subha Rao, Thummapudy. **Vizagaptama District and the East India Company, 1682-1858: A historical survey.** Andhra.

20. Vasanthi Devi, K. **Malayalam cinema, society and politics of Kerala.** Madras.

21. Venkataramayya, G. **Narrative culture of Srisailam: A cultural study.** Telugu.

Chemical Abstracts

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Centre for Management Development
32 Community Centre
New Friends Colony
New Delhi 110 065

MINISTRY OF HUMAN RESOURCE DEVELOPMENT

(DEPARTMENT OF EDUCATION)

YUGOSLAV GOVERNMENT SCHOLARSHIPS, 1992-93

Applications on plain paper as per the prescribed format, are invited from the Indian nationals who are residing in India, for five scholarships offered by the Government of the Socialist Federal Republic of Yugoslavia for 1992-93. The scholarships are available for short-term specialisation of 8 months in the subject fields enumerated below:-

(1) Economic Planning (2) Ceramic and Glass Technology, (3) Naval Architecture, and (4) Fisheries Technology.

Minimum Qualifications: for S.No. (1) Uniformly good academic record with 60% or above marks at the Master's Degree in Economics.

For S.Nos. (2) to (4): Unitormly god academic record with 60% or above marks at B.Sc/B.Tech/B.E degree.

Essential Experience: At least two years' teaching/research/practical experience as on 1-1-1992 in the subject field selected after the prescribed qualifications (M.Phil/Research for Ph.D. will be counted towards one year experience).

Age Limit:33 years as on 1-4-1992 but relaxable upto 2 years for Scheduled Caste/Scheduled Tribe candidates.

Value: It carries the following allowance payable by the Government of Yugoslavia:The scholarships holders will receive boarding and lodging in student hostels. Besides this, they will get a 5258 Dinars pocket money and 2190 Dinars in one disbursement towards books. Travel expenses in the country and within the specialisation programme.

Passage Cost : The cost of passage from India to Yugoslavia and back shall be borne by the candidate or his/her sponsors/employers. Subject to availability of funds, the passage cost may also be met by the Government of India, provided the candidate is eligible under the rules subject to income criterion.

Note:(1)Conversion formula is to be given where grades have been awarded by Universities/Institutions (2) The following documents must be attached with the application. (a)Attested copy of the certificate certifying the date of birth (b) Candidates belonging to SC/ST must attach a copy of certificate to this effect (c) Attested copies of marks sheet of the qualifying examination (d) Attested copies of degrees/diplomas/certificates etc. (e) A clear and precise programme of study/research in Socialist Republic of Yugoslavia (f) A recent passport size photograph of candidate to be affixed on the prescribed application form. (3) Application in the subject fields other than those specified above will not be considered. (4) Candidates who have already been abroad for study/specialisation/training either on a scholarship or on their own are eligible to apply only if they have been in India for at least three consecutive years after their return from abroad.(5) Applications of candidates who are at present abroad, will not be considered. (6) Candidates should have sufficiently good knowledge of India and the donor country. (7) Application which do not contain required documents will be treated incomplete and will not be considered. (8) No correspondence will be entertained with candidates not selected for interview/fellowship. (9) Canvassing in any form will be a disqualification. (10) Candidates must send their applications fully sponsored by their employers . Advance application duly completed in all respects may also be considered provided the application through employer is received within a fortnight from the last date prescribed for the receipt of completed applications pending sponsorship by employers. (11) Applications received after the prescribed date will not be entertained.

Candidates should apply for the above fellowships on plain paper (preferably typed) furnishing the above details/particulars to the **Under Secretary, Department of Education, Ministry of Human Resource Development, A/1/W.3, Curzon road Barracks, Kasturba Gandhi Marg, New Delhi-110 001 latest by 15th March, 1992.** Application received thereafter will not be entertained for consideration.

ANNEXURE-1

.... APPLICATION FORM....

1. Scheme under which applied...
2. Subject.... Sub-subject....
3. Name in full as in passport...
   Dr/Shri/Smt/Kumar.....

   (Surname) (First name) (Second Name)

Passport size photograph duly signed in ink to be pasted here (without photograph application will be considered incomplete)

4. Name of father
5. Name of the sponsoring authority and/or name of the authority which will employ you on return from abroad
5. a) Date of Birth
   b) Place of Birth
6. a) Are you citizen of India:
   b) State to which you belong:
   c) Are you a member of Scheduled Caste/Scheduled Tribe. If so, give particulars and attach a certificate from the Distric Magistrate of your place of residence in support of your claim

   For official use only A Q E
7. Address of the applicant with pin code number:
   i) Present/Mailing
   ii) Permanent
8. Particulars concerning Examinations passed commencing with Matriculation or equivalent examination (attach attested photocopy of each certificate/diploma/degree for record)

University/ Board/ Institution	Examination passed with year	Class/Div	Percentage of marks & position, if any	Subject taken

9. a. Details of papers published, if any:
   b. What you have been doing since last examination mentioned under Col. 8
10. a. Particulars of employment:

Office/ Instt. where employed	Date of joining	Date of leaving	Post held	Monthly salary	Nature of duties

    b. Have you any contact obligation with your employer? If so, furnish details.
11. a. Knowledge of foreign languages, if any (attach proof if possible)

Skill		Very good	Good	Fair	Nil
Comprehension	Spoken				
	Written				
Expression	Spoken				
	Written				

12. Nature of proposed programme of study/research:
    a. **Field of study**
       Main subject:
       Sub-subject:
    b. Scholarship/Fellowship desired for Training/Specialisation:
       Doctoral/research:
       Post-doctoral study/research:

c. Name of the Institution (if known) where admission/training is desired (in order of preference).
d. Are you willing to accept a place at some other institution if the appropriate scholarship agency recommends it?
e. Have you already approached any University or University Professor in the country in which you intend to study? If so, give name & results.
f. Degree sought, if any:
g. Give separately in extra sheets, brief statement in about 100 words each about:
  a. The work engaged in
  b. Nature, programme of study/research desired.

13. Future prospects after studies/research
  a. Plan for the future
  b. How are these related to the technical or economic development of the country?

14. a. Have you applied for any other scholarship in the last two years? If so state the name(s) of the scholarship(s) and the subject of study/research proposed therein. Are you willing to be considered under any similar scholarship scheme involving study in another country? If so, which?
  b. If you had applied under this scheme previously please indicate the result.

15. Give below the names of two persons (they must not be related to you) who are in a position to testify from their personal knowledge as to your fitness for the proposed courses of study. They must be persons under whom you have worked or studied.
  i) Name with full address:
  ii) Name with full address:

16. Have you ever been abroad? If so, give the following particulars

Country visited	Date of visit	Duration of visit	Purpose of visit	Scholarship(s) received, if any.

17. Father's name (in full)
  a. Nationality
  b. Occupation
  c. Address

18. In case you are married, please state:
  a. The name of your wife/husband with full address.
  b. Nationality
  c. Occupation (Please give designation with full address: if he/she is employed)

19. Next of kin to be notified in the case of emergency (give name, address and relationship)

20. I hereby declare that the entries in this form and the additional particulars (if any) furnished in reply to the questions above are true to the best of my knowledge and belief.

Place:
Date: (Signature of the candidate)

21. I understand that if I fail to avail myself of this scholarship, under any circumstances, the Government of India will not consider me for any scholarship being administrated by them for a minimum period of atleast one year from the date by which this scholarship should have commenced.

Place :
Date: (Signature of the candidate)

22. a. Certified that Shri/Smt/Km ____________ is employed by us/me. He/She has been working here as ________ since ________ and has been sponsored by us/me for study abroad.
  b. He/She will be relieved by me/us, if selected.
  c. I/We undertake that he/she will be permitted to join his/her department/organisation on return from study abroad. I/We will ensure that his/her terms and conditions of service i.e. salary seniority, promotion, leave etc. will not be adversely affected on account of his/her absence and further that everything possible will be done to provide the scholar with work and conditions of service suitable to and commensurate with his/her qualifications/training obtained abroad.

Place:
Date: (Signature of Employer/Sponsoring authority)
Seal of Office
davp 91/714

NATIONAL INSTITUTE OF EDUCATIONAL PLANNING AND ADMINISTRATION

17-B, Sri Aurobindo Marg
New Delhi 110 016

PROJECT ON: NATIONAL SAMPLE SURVEY FOR MONITORING OF UEE—1991-92

Project Fellow (2 posts) (Consolidated salary ranging between Rs.4700/- to Rs.5000/- inclusive of House Rent Compensation of Rs.800/- p.m. tobe regulated as per rules).

Qualifications

Essential : Should have consistently good academic record with first or high second class B+Master's degree in Statistics, Economics, Operational Research Computer Science OR equivalent degree of a foreign University.

Either a doctorate degree of an Indian or foreign University OR published research work of a high standard OR outstanding academic contribution in the relevant area of the project.

At least 5 years of teaching/conducting and/or guiding research OR equivalent administrative/professional experience in relevant areas. Proven merit in writing/editing/documenting professional work.

Desirable : Rich educational background and experience in the area of Statistics, Sample surveys, computer programming.

Age : 45 years — Relaxable in cases of retired officers of the Government/Autonomous organisations who could be considered on re-employment basis as per Government of India instructions.

Project Associate Fellow (1 post) (Consolidated salary between Rs.2800/- to Rs.3100/- p.m. inclusive of House Rent Compensation of Rs.450/-p.m. to be regulated as per rules).

Qualifications

Essential : Should have consistently good academic record with first or high second class B+Master's degree in Statistics, Economics, Operational Research Computer Science OR equivalent degree of a foreign University.

Either a doctorate degree of an Indian or foreign University OR published research work of a high standard OR outstanding academic contribution in the relevant areas of the project.

Desirable : 3 years experience in data collection, processing and analysis. Rich Educational background and experience in the area of sample surveys.

Age : 35 years

Project Coordinator(Administration) 1 post (Consolidated salary ranging between Rs.2800/- to Rs.3100/- p.m. inclusive of House Rent Componsation of Rs.450/- p.m. to be regulated as per rules).

Essential Educational Qualifications and Experience

A Post-graduate degree with atleast 5 years experience at the executive or supervisory level in the pay scale of Rs.2200-4000 or above.

Desirable : Rich educational background and experience in the area of Statistics, Plannig and Administration in educational institution/university.

Age : 35 years

Project Assistant (1 post) (Consolidated salary ranging between Rs.2200/- to Rs.2500/- p.m. inclusive of HRC of Rs.450/- p.m. to be regulated as per rules).

Qualifications

Essential : Minimum Second Class Master's degree in Statistics, Economics, Operational Research Computer Science OR equivalent degree of a foreign University.

Desirable : 2 years experience in data collection, processing and analysis. Rich educational background and experience in the area of sample surveys.

Age : 30 years

NOTE: For Project Fellow and Project Coordinator age and qualification are relaxable in cases of retired officers of the Government/Autonomous organisations who could be considered on re-employment basis as per Government of India instructions.

Period of appointment of the above posts will be 8 months in the first instance but likely to be continued.

Applications on plain papers addressed to the **Acting Registrar**, **NATIONAL INSTITUTE OF EDUCATIONAL PLANNING AND ADMINISTRATION, 17-B, Sri Aurobindo Marg, New Delhi 110 016**, may be sent **latest by 13th March, 1992**.

CLASSIFIED ADVERTISEMENTS

PONDICHERRY UNIVERSITY

Administrative Complex
R. Venkataraman Nagar, Kalapet
PONDICHERRY 605 014

APPLICATIONS INVITED FOR THE FOLLOWING FACULTY POSITIONS :

(A) Sl. No.	Name of the Deptt.	Professor	Reader	Lecturer
1.	Computer Science	1	1	–
2.	Physical Education	–	1	–
3.	Philosophy	–	1	2 (One post reserved for SC/ST)
4.	History	–	1	1
5.	Chemistry	–	1	2 (one post reserved for ST/SC)
6.	Tamil	–	1	–
7.	Physics	–	1	–
8.	Sanskrit	–	–	2 (one post reserved for SC/ST)
9.	French	–	1	1
10.	School of Performing Arts	–	1	1
11.	Sociology	1	1	1
12.	Bio-technology	1	1	1

Name of the Post	Scale of pay	Maximum Age
PROFESSOR :	Rs. 4500-150-5700-200-7300	50 years
READER :	Rs. 3700-125-4950-150-5700	45 years
LECTURER :	Rs. 2200-75-2800-100-4000	40 years

(B) SCIENCE INSTRUMENTATION CENTRE:

Sl. No.	Name of the Post	No. of Post	Scale of Pay	Maximum Age
1.	Reader/Technical Officer-II	1	Rs. 3700-5700	45 years
2.	Technical Officer-I	2	Rs. 2200-4000	40 years

In case of SC/ST candidates relaxation of 5 years is admissible for both the categories of (A) & (B)

HOW TO APPLY: Candidates who wish to apply for any of the position mentioned at (A) and (B) above, may get the required application form and prospectus indicating the required qualification, experience, field of specialisation and other details, by sending a written requisition with clear postal address alongwith a demand draft of Rs.15/- (Rupees Fifteen only) drawn in favour of the Finance Officer, Pondicherry University, Pondicherry, payable at Pondicherry.

All requisitions should be addressed to the "Registrar, Pondicherry University, Administrative Complex, R. Venkataraman Nagar, Kalapet, Pondicherry 605 014" by designation and not by name. For each post a separate application is needed.

REGISTRATION FEE: Application forms duly filled with copies of certificates, testimonials etc. alongwith Registration fee of Rs.50/- (Rupees Fifty only) for each post by a demand draft drawn on any nationalised bank, payable at Pondicherry in favour of the "Finance Officer, Pondicherry University, Pondicherry", should reach the Registrar, Pondicherry University.

EXEMPTION: The candidates belonging to SC/ST and visually handicapped categories are not required to remit any fee either towards postage & stationery charges of Rs. 15/- or Registration fee of Rs.50/- on production of the relevant certificate alongwith the requisition and the filled in application.

LAST DATE:

For receipt of requisition in plain paper for application forms with a DD for Rs.15/- is **31.3.1992**

For receipt of filled in prescribed application forms for all the posts is **30.4.1992**

B.V. Selvaraj, IAS
REGISTRAR

MARATHWADA UNIVERSITY

University Campus
Aurangabad - 431 004

Advertisement No. Estt/Dept/25/1992

Applications for the post of LIBRARIAN in the Scale of Rs. 4500- 150-5700-200-7300 from the candidates fulfilling the following qualifications are invited so as to reach the undersigned on or before 20-3-1992.

i) Master's degree in Library Science/Information Science/Documentation with atleast fifty five percent marks or its equivalent grade and a consistently good academic record;

ii) One year specialization in an area of information technology/Archives and Manuscript Keeping Master's Degree in an area of thrust in the Institution; and

iii) At least ten years experience as a Deputy Librarian in a University or fifteen years experience as a College Librarian;

iv) Evidence of innovative Library service and Organisation of published work.

v) He shall also possess experience of teaching to Degree or Diploma in Library Science.

vi) Proficiency in Marathi and English Languages.

DESIRABLE:

M.Phil./Ph.D. Degree in Library Science/Information Science.

vii) The appointment of Librarian will be on probation for a period of two years in the first instance.

Candidates applying for the post of Librarian should ordinarily be below the age of 45 years relaxable by five years in the case of candidates belonging to Backward Classes. The age limit can be relaxed in the case of deserving and in-service candidate also.

Nine copies of application together with nine copies of the testimonials, if any, separately for the post giving particulars in the prescribed form (which will be supplied on receipt of an Indian Postal Order of Rs. 90/- towards the cost of form) should be sent to the Registrar so as to reach him not later than 20.3.1992. The prescribed application forms will be supplied to the candidates on request accompanied by a self-addressed envelop (23 x 10 Cms) bearing postal stamps worth Rs. 5/- for the postage separately for the post.

Candidates who are employed at present must submit their applications through their employers.

Selected candidates will be required to join within the time limit specified in the order of appointment.

Canvassing direct or indirect will be disqualification.

B.R. Arbad
REGISTRAR

INDIAN STATISTICAL INSTITUTE

Telegram : STATISTICA, CALCUTTA 700 035
Telephones : 52-6694 (5 lines)
52-7694 (4 lines)
52-8596 (3 lines)
Telex : 21-2210 STAT IN

203 BARRACKPORE TRUNK ROAD
CALCUTTA 700 035, INDIA

Haldane Memorial Prize: 1992
Announcement

The Indian Statistical Institute invites nominations for Haldane Memorial Prize: 1992. Conditions for the award and the manner in which nominations are to be made are set out below:

1. The prize will be awarded to a person generally working in India and who is less than 35 years of age on 1 July 1992.
2. The prize will be awarded for the best *single-author* research paper in Medical Statistics, Biostatistics and related fields, published in India or abroad, within three calendar years previous to the year of the award.
3. The prize, in the form of a medal, will be awarded at the Institute's annual convocation, as far as possible.
4. The candidate recommended for the prize will have to come to Calcutta and present the prize-winning paper in a seminar at the Institute around the time of the convocation. The prize-winning candidate's travel to Calcutta by train and his/her stay in the Institute's campus in Calcutta will be supported by the Institute.
5. Applications/nominations for the prize may be made by the candidates themselves or by others and be forwarded through the Head of the Institution to which the candidate is affiliated; they should be accompanied by a copy of the concerned research paper and the candidate's biodata (with proof of age) and sent to the address given below to reach by 30 June 1992.
6. Candidates who have not applied or been nominated, may also be considered.
7. If no candidate is found suitable for the prize, no prize will be awarded.
8. The selection of the prize-winning candidate will be made by a committee of experts and is subject to ratification by the Academic Council of the Institute.

Address for sending applications/nominations

Director
(Haldane Memorial Prize)
Indian Statistical Institute
203, Barrackpore Trunk Road
CALCUTTA

Inter-Varsity National Youth Festival

Shri M.M. Rajendran (fifth from left upper row), Secretary, Department of Youth Affairs and Sports, Govt. of India, alongwith youth artists from various universities. On his right is Mr. Sampson David, Sr. Cultural Officer, AIU.

L YOUT
TIVAL 1992

Kathak by IKSVV,
Khairagarh

NATIONAL
FESTIVAL

Mohiniattam by
Kerala University

Published by SUTINDER SINGH, on behalf of the Association of Indian Universities, AIU House, 16 Kotla Marg, New Delhi-2.
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ISSN-0566-2257

University News

IONDAY, MARCH 9, 1992

Rs. 5.00

The upcoming campus of the
Sanjay Gandhi Postgraduate Institute of Medical Sciences, Lucknow.

CLASSIFIED ADVERTISEMENTS

BHAVNAGAR UNIVERSITY

Gaurishankar Lake Road, University Campus
Bhavnagar-364 002

NOTIFICATION NO.1/92

Applications are invited for the following posts in the prescribed forms which can be obtained from the university office by sending (non-refundable) fees of Rs.25/- (twenty five only) for the general category and Rs.12.50 (Rupees Twelve and fifty paise only) for the reserved categories by crossed Demand Draft in the favour of Registrar, Bhavnagar University, Bhavnagar, or by depositing cash during office hours i.e. 11.00 am to 2.00 pm. on working days. Application with full details and enclosures should reach the undersigned on or before **15-4-1992.**

Sr.No.	Name of the post & Pay-scale	Remarks
1.	PROFESSOR Rs.4500-7300 One post each in (A) Hindi (B) Marine Science (C) Commerce, (D) Economics.	Specialisation (for B) Fisheries & Aquatic Biology.
2.	READER Rs.3700-5700 One post each in (A) Economics, (B) Commerce.	
3.	LECTURER Rs.2200-4000 One post each in (A), (B) & (C); two posts in (D) (A) Education, (B) Statistics (C) Sanskrit (D) Chemistry Posts: (C) and (D) are for colleges.	Reserved for SC/ST (Third Attempt) (For (B) & (C)
4.	ASSISTANT LIBRARIAN One post for University Library Rs.2200-4000	

QUALIFICATIONS: As per the norms of University Grants Commission. Details will be provided with the application form.

D.A. Vaishnav
REGISTRAR

UNIVERSITY OF LUCKNOW

LUCKNOW

Advertisement No.2/1992

WANTED

PROFESSORS(Rs.4500-150-5700-200-7300)

1. One in Arabic
2. One in Public Finance & Monotary Economics

READERS(Rs.3700-125-4950-150-5700)

3. One in Public Administration
4. One in Linguistics
5. One in Law

Lecturers (Rs.2200-75-2800-100-4000)

6. Two permanent and one temporary (likely to be made permanent) in Hindi
7. One in Social Work
8. One Oriental Studies in Arabic & Persian
9. One temporary (likely to be made permanent) in Geology
10. One in Law

QUALIFICATIONS

As laid down in the Lucknow University First Statutes.

GENERAL

Benefits of Provident Fund/Pension available as admissible under the rules. Period of probation for permanent posts is one year. The number of posts can be varied.

Prescribed application forms can be obtained, free of cost, by sending a self-addressed envelope size 23x10 cm. with postage stamps worth Rs.7/- from the office of the Registrar. Last date for submission of applications, duly completed in all respects, with recent testimonials, publications etc. and a Bank Draft of Rs. 15/- drawn in favour of the Registrar, Lucknow University, payable at any Bank in Lucknow, is **March 28, 1992.** Candidates who are in service should send their applications through proper channel. Application Forms to outstation candidates will be sent up to March 21, 1992. Canvassing will be a disqualification.

A.N. Seth
REGISTRAR

ASSOCIATION OF INDIAN UNIVERSITIES
16 Kotla Marg, New Delhi-11000

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Vishwavidyalayam, Tirupati

Secretary
Prof S K Agrawala

UNIVERSITY
NEWS

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Opinions expressed in the articles are those of the contributors and do not necessarily reflect the policies of the Association.

Editor :
SUTINDER SINGH

MYSORE

Sanjay Gandhi Postgraduate Institute of Medical Sciences, Lucknow

An Introduction

K. N. Agarwal*

Sanjay Gandhi Postgraduate Institute of Medical Sciences, Lucknow, hosts the AIU Standing Committee Meeting and North Zone Vice-Chancellors Conference on 14&15 March, 1992

The Sanjay Gandhi Postgraduate Institute of Medical Sciences (SGPGI) has been created by an Act of the Uttar Pradesh Legislative Assembly on 13th October, 1983 as an autonomous institute with status of a State University. The primary objective of the Institute is to achieve excellence in the field of patient care, medical education and research. The Institute's centres are structured for faculty composition and technical facilities with equal emphasis on patient care and basic research.

During 1986-91, the Institute has been busy in structuring development of Phase-I specialities.

A. Superspeciality Centres

i) Cardiac Sciences (Cardiology & CVTS)
ii) Endocrine Sciences (Medical & Surgical)
iii) Gastric Sciences (Medical & Surgical)
iv) Neurosciences (Medical & Surgical)
v) Renal Sciences (Nephrology & Urology)
vi) Immunology & Genetics

Academic courses – D.M./M.Ch./Ph.D. – in all the above Sciences have been started.

B. Laboratory Sciences

i) Pathology
ii) Transfusion Medicine
iii) Microbiology
iv) Bio-chemistry

Academic courses – Ph.D. & M.D. – Transfusion Medicine; Ph.D. in other subjects.

C. Radiation Sciences

i) Nuclear Medicine
ii) Radiodiagnosis
iii) Radiotherapy

Academic courses – M.D. & Ph.D. – in all the above subjects.

The Institute has established modern technology for patient care and basic research with considerable success. These developments have raised status of most of our centres as the best developed in the country. Every effort is being made to maintain as well as keep updating these. The long gestation period in expanding the patient care and basic research facilities has been due to non-availability of well trained nurses, technicians etc. and even more difficult has been to attract qualified & dedicated faculty at the national level.

**Director, Sanjay Gandhi Postgraduate Institute of Medical Sciences, Lucknow-226 001.*

The Institute has been able to get all the courses inspected by the Medical Council of India. The Institute's request for including Genetics and Immunology as newer areas of medical education has also been considered by the Medical Council of India. The Association of Indian Universities has provided its recognition. National Board of Examination has also accorded recognition to all the departments recognised by the Academic Board for training in the courses. The Institute invited a National Expert Group to evaluate the ongoing activities and suggest areas of development for future. This task was completed in August 1991 and the Governing Body and Institute Body of the Institute in its meeting held in September, 1991, accorded its approval. The areas are as follows :

1. Bio-medical Research Centre including Molecular Biology, Biotechnology, Experimental Medicine & Surgery.
2. Epidemiology – Biostatistics & Health Intelligence.
3. Oncology – Hematology
4. Developmental Biology
    (a) Basic Developmental Biology, and
    (b) Clinical Developmental Biology
        (i) High Risk Obstetrics – Perinatology & early childhood,
        (ii) Growth – Developmental & Clinical Psychology, and
        (iii) Nutrition Division
5. Pulmonary Medicine.

At the request of the Government of India, the Government of Japan has provided SGPGI one of the largest grant-in-aid in medical field to a third world country. After the identification of equipment requirement by the JICA Survey Team during February 1986 a total of 3.319 billion Yen was granted in two phases – 1.973 billion Yen in 1986-87 and 1.34 billion Yen in 1987-88.

The Institute also invited Japan International Cooperation Agency (JICA) Project Evaluation Committee for assessing the development of the Institute. Their visit has further strengthened the technical cooperation programme between the Institute and Nagoya University. The highlights of the Institute's achievements in a short span are listed below :

Highlights

The *Department of Radiodiagnosis* is equipped with the first MRI system with spectroscopy facility in the country, DSA (Uni and Biplane), CR imaging, and whole body CT Scanner besides others.

The *Department of Nuclear Medicine* has Gamma Cameras with computerised data processing systems, a SPECT Gamma Camera, Bone Densitometer with dual photon absorptiometery and facilities for high dose radionuclide therapy.

The *Department of Pathology* is equipped with an electron microscope and the Clinical chemistry laboratory is equipped with three autoanalysers capable of doing upto 3000 tests per hour.

The *Department of Cardiology* has two biplane catheterisation laboratories with facility for digital angiography for coronary angioplasties which are being done routinely. In addition the laboratories are well equipped to undertake electrophysiological studies.

The *Cardiovascular and Thoracic Surgery Department* conducted its first open heart surgery on 28th December, 1988 and by now has already done 400 cases for reconstructive cardiac surgery, coronary artery bypass surgery, neonatal and infant cardiac surgery, etc.

The *Department of Gastroenterology (Medicine)* has activated extra corporeal shock wave lithotripsy and endoscopic ultrasound and esophageal manometry. The Surgery Division has also started major procedures.

The *Department of Nephrology* has complete hemodialysis and peritoneal dialysis facilities.

Special procedures undertaken by the *Department of Urology* include lithotripsy, and urodynamics and it is running a successful renal transplantation programme.

Neurosurgical operations done include microvasular, stereotactic, spinal and pituitary surgeries.

The *Department of Immunology and Genetics* offers facilities for investigation in autoimmune and immune deficiency and genetic disorders and are equipped with the most modern laboratories.

The *Department of Radiotherapy* is equipped with a dual energy linear accelerator and HDR intracavitary radiation routine radiotherapy facilities.

The *Department of Transfusion Medicine* provides packed cells, platelet concentrates, fresh frozen plasma and cryopreceptate.

The *hospital support services* are also the most modern with air-conditioning, sophisticated central sterilisation and laundary facilities, modern dietetics service and an oxygen concentrator, liquid nitrogen plant etc.

Research Programme

The infrastructure of the Institute provides for excellent laboratory and experimental facilities. The faculty has already attracted research grants from Department of Science & Technology (DST), Indian Council of Medical Research (ICMR), Bhabha Atomic Research Centre (BARC), Council of Science & Technology, UP (CST), etc. In order to support the youngsters before they become established scientists and to invest in novel pilot research and developmental projects, the Institute has been providing intramural funds for research & seed money for smaller projects. All the projects are examined by the national and international level experts and the Research & Ethical Committee guides the quality & direction of the research at the Institute.

Institute looks forward to valuable suggestions and criticism so that mid course correction and future development can be planned.

Reforming Higher Education

J.N. Kapur*

Introduction

Prof. Dandekar in his learned Dubhashi Memorial Lecture[1] has quoted extensively from Adam Smith's '*Wealth of Nations*' to bring out the striking similarities in the higher education scenario in our country today to the one operating in England more than two hundred years ago. This however does not mean that the remedies suggested by Adam Smith (and not even accepted in his own time in his own country) should be tried in our country.

During these two hundred years and more, the western education system has not stood still. It has been changing continuously and whatever its other weaknesses may be, today it is a system in which

- every teacher is fully accountable for his teaching and no teacher can get away with careless or indifferent teaching;
- every student is fully accountable for his studies and no student can be lax in his studies even for a day;
- almost every research worker is fully alert about his research responsibility and teachers not committed to quality research are not given much respect;
- no educational administrator can dare to misuse his authority with impunity;
- politicians do not interfere in admissions and appointments and only lay down general policies;
- governments are fully accountable for the public funds they spend on education and research.

There may be a few exceptions here and there, but on the whole the system works and delivers the goods. It is ultimately responsible for having produced graduates who have brought unprecedented affluence to the western world.

There students teachers put on an average, two or three times the work our students and teachers do and the research output per scientist is much higher than ours.

And all this has been achieved without seriously affecting security of service, without giving up academic freedom and without university administrators becoming servile to the government.

As such we need not draw our inspiration from Adam Smith's proposals. In fact the best course for us is to adopt the modern western higher education system as a model. Prof. Dandekar's proposals themselves incorporate many features from the present western education system.

Adam Smith's Suggestions

(i) The salary should make a part and only a small part of the emoluments of the teacher, the greater part should come from the honorarium or fees of his students.

(ii) The students should be left free to choose which college they like and in each college be free to choose the teachers or tutors who should instruct them in each subject.

In other words, the students should bear the full cost of their education and in essence should directly or indirectly engage and pay the teachers who are worth their price.

In practice, the suggestions are being followed a great deal today in India, where students pay almost nominal fees in colleges and universities to keep their names on the rolls, to get the right to appear in the university examinations, but otherwise they engage private tutors of their choice and pay them according to their price. These tutors get substantial money from both the government and the students.

Prof. Dandekar's Suggestions for Implementing Adam Smith's Ideas

(i) The salaries of the present college and university teachers should be frozen at the present level and there should be no revisions in future. However the teachers should be allowed to charge additional fees from the students for the lectures they give, provided they give a share of it to the government.

(ii) All new teachers should have to earn their entire emoluments through fees from students.

(iii) Students may be given long-term loans to pay the fees to the teachers. Some of the loans may even be waived off in future.

(iv) Research should be funded by the users such as industry and the government and it will be the responsibility of the teachers to get grants for re-

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search.

These suggestions would only legalise the present system in which a number of teachers do little teaching in the colleges and encourage students to pay them for coaching them privately for the university examinations.

In fact it may encourage even those teachers who are now doing their teaching work conscientiously to neglect teaching in colleges and to engage in private tuitions. The government budget will not decrease immediately, but the tax payers' burden will increase, because loans will be given at the tax payers' expense and will also be waived off at the tax payers' expense. The real beneficiaries will be the teachers. This suggestion will also expose fresh teachers to unfair competition because they will have to compete against senior teachers whose major emoluments are already guaranteed. Competition is good, provided it is fair.

Ultimately all the tax payers will be paying more for the benefit of some students in higher education and these students will mostly come from richer sections of the society. Also man does not live by bread only. There are certain intellectual, social, cultural and philosophical problems which require education and research and which will not lead to immediate economic benefits. If these come to be neglected, the future of the nation will be dark.

This suggestion will make the teachers accountable to the students who pay them, in the sense in which all tutors are accountable to the students who pay them, but it will not make the teachers accountable to the society which will still bear a large portion of expenditure on higher education.

The major question, however, is whether these suggestions will reform higher education. I am afraid it will not, because passing stereotyped university examinations which test only memory and in which one can do well by preparing part of the course and by adopting unfair practices is not equivalent to acquiring education. Our main problem today is that our present education does not encourage any thinking at all, it does not challenge the students and the teachers and from this point of view, the reform may make the system worse, not better.

Reconstructing the Higher Education System

If the drastic reforms suggested by Adam Smith and enthusiastically recommended by Dr. Dandekar have not been accepted by any country in the world for 200 years, there must be a reason for it. If this reform is not feasible, what should we do? It is suggested that we accept the highly successful Western higher education system without tinkering with it. A partial accepting for safeguarding the vested interests in the present system will not do. What are the concrete changes we should introduce?

1. We should adopt the complete internal assessment system in which the teacher who teaches, examines his own students with all the essential safeguards, checks and counter- checks.

   (a) The teacher does not give marks, but gives grades i.e. essentially he arranges the students in his course in order of merit.

   (b) The teacher conducts a number of quizzes and tests at regular specified intervals and the students are shown the answerbooks and can discuss their marks with the teacher.

   The student can even see the answerbooks of other students and make an appeal to the head of the department in case he feels aggrieved. In this case, the students themselves ensure that the teacher is completely fair in his grading and the teacher is able to resist all pressures for being unfair.

   (c) The whole examination system is open. The teacher keeps a record of all the quizzes and the question papers set, so that everyone can be satisfied that the prescribed course has been covered in letter and in spirit.

   (d) In the beginning of a course, the teacher gives the students in writing lecture-wise details of what he is going to teach, the textbooks he is going to use and scheme of marks he is going to adopt He indicates there the sections of the textbook he is going to cover in every lecture, so that students can even study these in advance and come ready to benefit fully from the teacher.

   (e) Every student must have the textbook. He can buy it or he can get it from the book-bank library or he should be given a loan to buy it. This is essential since in the new system, the number of lectures has to be reduced and the students have to be given greater responsibility for reading easy portions of textbooks themselves. The present system in which the teacher is expected to teach everything is very costly in faculty time and is uneconomical and makes the student a completely passive learner.

   (f) The libraries will have to be better planned to enable students to do projects assigned by the teachers.

(g) The teachers who give assignments which require creative thinking or those who give projects requiring extensive library work will be considered better teachers.

(h) Every teacher will have to be provided with an office where he can meet students and discuss their difficulties. The teacher will be expected to be present in his office for some time every day and preferably for the whole day and he will have a small personal library there in his office.

(i) The system will make the student work regularly throughout the year and will enable the teacher to really interact with his students.

2. The student reaction surveys, through suitable questionnaires should be introduced for every course in every college. The result should be made available to the teacher to enable him to improve his teaching and his course. These should also be available to the administration as one of the inputs to enable it to evaluate his teaching at the time of assessment or promotion.

3. Perfect fairness in admissions must be ensured by publicising the criteria well in advance, by putting up lists of students with their marks and by allowing those, who still feel aggrieved to see the records.

4. Perfect fairness in selections and promotions of teachers must be ensured –

   (a) by laying down the criteria explicitly in advance and in detail and letting the teachers know precisely what is expected of them to win promotions.

   (b) by putting all inputs about teaching, research, committee work, community work etc. before the selection committee and asking the selection committee to give its detailed reasons for its decisions.

   (c) by making the system as 'open' as possible.

5. Institute Academic Staff Colleges/Higher Education Units to enable teachers to improve their teaching.

6. Institute Distinguished Teacher Awards in every college and university and making their awards be fair and look as fair as possible.

7. Encourage research by generous grants by central funding agencies to all those who are actively engaged in research. In fact funds for attending conferences, typing papers, becoming members of professional bodies, employing research scholars should all come from these grants, so that there is keen competition for these grants and these grants become an important means for peer recognition, so much so that an assistant professor with grants may be rated higher than a professor with no grants. In the West, because of this peer recognition through grants, every teacher remains continuously active in research. In the U.S.A. teachers are paid salaries for nine months in a year and for the remaining three months, they can charge these from their research grants, if they have these.

8. Encourage teacher participation in academic conferences and symposia by funding the participations of those who take active part in the conferences. Funds for this should be at the disposal of the college/university, but every teacher who makes use of the funds should give a seminar on his experiences for the benefit of other teachers.

9. Have the courage to discriminate between good teaching and bad teaching, between good researchers and bad researchers, but do it through objective criteria and see that the process of discrimination is not only open and fair, but it appears to all to be open and fair. This can be done.

10. Have the courage to tell politicians that higher education is too vital a sector to be exploited for narrow political ends. It is for the development of human resources for meeting the fierce international competition in all fields specially economic, scientific, technological and industrial.

11. The fees should be increased so that students have to contribute the same share of cost on higher education as students do in the West. At the same time, the government should increase opportunities for students to earn while learning. The government should subsidise all those employers who are willing to employ students in the evenings and during summer vacations. In the West, most students follow the practice and some even do full-time job after school to earn money to join the university later. We should create a climate in which students should consider it a matter of honour to meet the cost of their education by their own efforts rather than to depend on their parents, even in those cases where the parents are willing and able to afford these expenses.

12. The student loan schemes by banks should be actively pursued, but instead of the clause of waiving off the loans in special cases, there should be a clause for deferred payment in special cases.

13. The increase from fee income should not go to the government exchequer, but should be used to improve the poor infrastructural facilities like libraries, laboratories, buildings, hostels, sports grounds etc. in colleges and universities and in starting new innovative programmes in colleges. This budget should be kept separate and students should be actively involved in drawing up plans for spending this increased income.

14. We may examine carefully the scheme for graduate taxation used by some countries to get more resources in higher education. Part of the public expenditure in higher education has to be paid back through deduction from the income of graduates, specially from those of professionals like doctors, engineers, lawyers etc.

15. The western universities receive huge grants from industries and private philanthropists, specially alumni of the universities. There is no reason why our universities should not get similar grants provided we make strong efforts and we restore discipline and accountability in the system. In fact one of the main jobs of a Vice-Chancellor is to get funds for the university.

16. The universities there also make a great deal of money through consultation work by their professors from the government and industry. Here though some universities and IITs get some funds through this, most universities have not made serious efforts in this direction. The governments (including State Governments) and industry (including small-scale industries) should also learn to respect the opinions of our academicians much more than they do at present. Thus university-government-industry cooperation will not only provide universities with much needed funds, it will also bring them nearer to life of the community in which they live and make the educational process more realistic. The Defence Research and Development Organisation (DRDO) should also give more funds to university research than it is doing today. The DRDO has also got so much geared to solving immediate problems that it may have neglected the need of building up a strong base of science and technology in the universities, only on which a strong defence system can rest.

17. In the new system, the whole paraphernalia of external examination system involving huge expenditure and undue powers to the bureaucratic elements in the system and leading to corrupt practices like mass copying and interference by politicans will disappear. There will be substantial saving of time and funds for real academic work of the university.

18. There will be greater autonomy for the teachers and the departments in designing new courses, but at the same time their work will be open to scrutiny by outside agencies and accreditation bodies.

19. In the western higher education system, neither the student nor the teachers, nor the politicians are pampered. The students have to work for at least 50 hours a week throughout the year. The teachers have to work as hard and research workers have to work even harder to face challenging problems of today. The politicans cannot misuse educational system to oblige friends, they can only provide funds for an excellent education system and hold the students and teachers accountable for their proper use. The system is human, but is ruthlessly effective.

Concluding Remarks

Though we have called the above system as Western Educational System, it has been accepted in toto by many countries of the world. The only notable exceptions are India, Pakistan and Bangladesh etc. We are trying to improve a system which Macauley gave to us. We are not prepared to give it up and adopt the latest Western System. We should not hesitate to adopt it because it is based on the same values on which our own ancient systems were based. Our present system is not really ours.

Our individual students, teachers, intellectuals, researchers, administrators are as good or even better than theirs, but the structure of the system is weak and it allows itself to be exploited by vested interests in a big way. We have to develop a system in which vested interests cannot play mischief, however, hard they may try.

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Social Change Through Students and Teachers

K.K. Bajaj*

Education and Social Change

It still continues to be debated as to how education can be used as an effective instrument of social change and as to how far can our institutions of higher education play the role of a catalyst in the present set up. At times this aim attracts non-educational rather than educational attention. Simultaneously both the universities and the colleges come under critical focus and social scrutiny. They may not be the prime movers of social change yet they accommodate and prepare the youth for greater social tasks and responsibility. While doing so the system in its entirety attracts the comment of social components at large. Ideological debates are there. Seminars and workshops are held to plan and discuss the theme, content and relevance of education. This exercise has continued ever since India became independent. Some critics have attributed the present crisis in education to our politicians while others have held our education planners solely responsible for the flak it has drawn so far. Commissions and consultative committees have however not been able to suggest a sound perspective plan which could ensure development linked education for our youth in a continuous manner and face the perils of increasing population, poverty and under-development in the country. In fact all our educational endeavours have been neutralised by these social handicaps and limitations. We have had numerous experiments right from primary education to the level of postgraduate education. While efforts and inputs in the field of primary education have not resulted in universal primary education so far despite our avowed commitment for this, the distortions in higher education too are quite glaring. Education in our country may have indicated some of the social changes yet it has not brought about the total change in social outlook and implication. The changes have not been so substantial as to make the people totally responsive and prepared for a new social order. The awareness that education might have brought about could only be a transitional phase and not the national revolution in thought and approach as could bring about the establishment of a new social order coupled with a sense of national commitment and responsibility for total social reconstruction. The impact of the change is not institutionalised in social order. There has been some change in the status quo but the total change which transforms a society is lacking. If this situation has sustained over a period of time a number of factors that go to comprise our education require to be analysed. Many issues gravitate with education. Criteria and contents occupy an important position. Finances and relevance of institutions have their impact in our study. Social intervention and accountability are the other important factors while the slogan of autonomy to the institutions of education is also equally important. The role and responsibility of teachers in the context of the so desired social change may also be looked into. The hopes and aspirations of our students can also not be ignored in this evaluation. The explosion of numbers and the quest for degrees of whatever merit they may be, are social realities and the total situation looks like a race between education and catastrophe. Who holds the equilibrium, one cannot exactly say. There are thoughts of equality, excellence and equity. Then there are challenges of modern technology which require to be integrated into the system in order to make it globally applicable and competitive. The threats of motivated disorganisation in our institutions have their own place. The conspicuous lack of academic leadership in our universities makes the issue more murky and disappointing in its national perspective. Large scale disturbances which reduce the teaching days to the minimum and the routine lackluster lectures to reluctant students in our classes complicate the problem as they are not relevant to the emerging occupational patterns in our social demand structure and economy. The courses are old and the fee structures account for nothing more than token payments in the name of education. While the resource crunch continues, the States only pay the salaries to the teachers to keep the institutions open and are not able to add anything to their infrastructure or to the student amenities. This makes the system stagnate at its old level. The demands get accumulated and the indiscipline breeds at large. Many malpractices have also crept into the system over a period of time. The political designs apart, with the lingering weakness of will surviving on the part of the powers that be, the system creaks under its own load without any further perspective or programme for its improvement.

Student Orientation

In the collegiate sector the students get the first exposure to higher education with psychological

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euphoria and excitement for a promising future that may unfold itself to them in course of time. The students here have their first rub with their uncertain and bleak future. All their plans meet the unexpected end as neither the courses nor their teachers prove their relevance to them and they gradually move towards indiscipline and disillusionment. All our planning effort should be focussed here if higher education is to be used and adopted as an instrument of social change. The nascent fervour of the young students entering the portals of the institutions of higher education should be planned to be channelised here only. The courses must get a periodic revision so as to make them uptodate and relevant to social occupational requirements and in order to make the students' outlook competitive and comprehensive to face the future challenge. The orientation should be practical enough to prepare them for taking up jobs on their own initiative. Besides this the students' services should be strengthened in the colleges with vocational guidance and information about placement avenues. In addition sound foundation courses of communication skills, flexibility and choice in vocational and non-vocational combinations should be allowed. Interdisciplinary subjects and combinations should be encouraged so that mental horizon knows no set barriers and the outlook gets widened. There is no need to overemphasise the historic theories that have outlived their use and applicability. Instead more recent information packages should be introduced to attract the interest of the students. The teachers should be trained to be more participative and accountable in the matter of tailoring relevant courses. The contents of courses occupy the most important position in the entire exercise. In order to make the students more responsible, the concept of participative management should be encouraged. The students who excel in studies should be invited to share the burden of running the management of the colleges. Those who excel in sports should also find their interests safeguarded. The role of curricular activities should be defined. For giving proper shape to the idea of student services in the colleges, national awareness requires to be created. A policy statement at the level of the Central Government, UGC and the universities also requires to be initiated along with a programme of action and a task force for its monitoring. Role of student unions in colleges and universities gets into sharp focus the moment anyone discusses their participation in the administration of these institutions. In consonance with the spirit of the times and the tenets of our democracy their participation cannot be denied so also to give them the exposure and the feel of the happenings in our institutions and in order to make the entire system socially open and accountable yet the modalities of this participation require to be carefully formulated. Such a participation which takes political views into academic considerations may not be quite welcome and may instead damage the healthy academic environment which is so much required for promoting the health of an institution. The participation of the students has however to be encouraged in all activities that promote academic growth and better amenities for the students. This will enhance their interaction with the teachers and give them the feel of the institutional life and responsibilities. Inter alia this may also make them more answerable to the institution and the society. A situation of their participation which promotes factionalism and indiscipline should not be allowed to crop up.

The teachers play an important role in our system. The students look towards them for academic leadership, guidance and direction. The teacher is at the base of the entire pyramid of social change and growth. The society owes its responsibility and reverence towards him. His role in the present context is all the more crucial and in fact the crisis in education which continues to be acknowledged, could partly be attributed to him. While there are good teachers and excellent scholars capable of guiding their students through the complexities of all their subjects, there are others who have made the entire teaching a casual exercise of no consequence or at best a routine bread and butter story for them to be often repeated with endless regularity. There have been periodic reviews about their conditions of service, pay scales, professional advancement and other allied issues yet the qualitative improvement that was expected to come through their improvement does not seem to have taken place — maybe due to some other factors as well. The overall picture continues to be depressing and the role of the teachers continues to be questioned at various levels in all its efficacy and relevance. Many programmes have been implemented for the professional enhancement of the teachers both in the colleges and the universities. From teacher fellowships to academic staff colleges, the emphasis has been on institutionalising professional training in their outlook and performance. A variety of schemes giving them the benefits of professional improvement and finish through programmes targetted at them, could be seen from the UGC reports. As all this is for them, the society expects them to be more accountable in shaping their products. The present turnout of unemployable youth makes a sad story of their accountability. The quality of academic packages and the teaching thereof is their concern. How the contents become socially relevant is to be seen by them. To make them acceptable is their duty. Their advice and application in the process have to be purposive. No system can survive without the active involvement of the teachers. It is time when the planners could concentrate on the role of the teacher and bring him centrestage in the entire process. Unless there is a strong desire created among the teachers to improve the system, the present rot cannot be stemmed. For this new attractive incentives may have to be offered and the results have to be linked to the performance of the teachers. Social transformation leading to economic viability can only occur through the teachers' participation and not through the kind of cursory approach that we are witnessing now in our institutions of higher education.

Finances for Education

Both for the improvement of amenities in favour of students and the incentives to the teachers linking their performance to their results in terms of students' placements, the resources have to be provided in excess to what is being provided. Various ways can be suggested for this. One is to enhance the present rates of fees so as to make them marginally compensate for the huge investments that may be needed to bring about the desired changes in the system. An attendant apprehension that the very idea of increase in fees may prove to be counter-productive, may also have to be seriously debated before this can be implemented. But the proposed enhancement that puts its load on those who can pay, should not be rejected. The levy may not be uniform but may be so rated as to ensure that those of the poor who cannot pay may stand exempted. The fees cannot be so supportive and sufficient as to meet the total financial requirements to run an institution. The various funding agencies cannot escape their social responsibility function towards financing education. Instead there is need for allocating greater funds in favour of education. Relevant to this is the need to ensure that no new institutions are opened without ascertaining the dire need to do so. Political appeasement apart, the exercise would in itself be counter-productive and detrimental to the needs of education. It is no use opening perpetually sick institutions which will continually stammer for survival and clammer for State subsidies, which the small States can ill afford to offer for ever. Private initiative in the field of education should be encouraged provided it ensures quality and does not merely commercialise education as can be seen in the case of many professional courses which are opened through political patronage and which simply pedal mediocrity in the name of education. Even such minority institutions which discriminate admissions on the basis of the caste or capacity of the students to pay should be discouraged. But the initiative that promotes quality and enhances the level of professional growth in chosen academic fields deserves to be encouraged. The institutions that are plagued by financial irregularities should attract no grants from the UGC, and the State Governments. For this the UGC and the State Governments should establish independent grant monitoring agencies as a part of their own initiative. The role of endowments, rich trusts and other guarantees for the establishment of the institutions should not be ignored. Financial security is the key to educational promise in all private establishments. Affiliation is not merely a formality of sorts. It is an academic privilege of the universities which should be exercised with caution and sincerity of purpose and not as an act of political expediency or private motivation of a handful of people in any State. This is an act of eternal social responsibility on the part of the university and should not be undergone with any sense of complacency and casual approach. Heavy endowments should be insisted before a college is proposed to be established. Swelling the ranks of unemployable youth through enviable and understaffed colleges is not a function of higher education any more even as a social call.

Resources determine the quality of teaching and research. With scanty allocations to the colleges and the universities the level cannot be expected to be globally compatible. Old tools and traditional means of teaching cannot go with the challenge of modern technology and delivery system. The resources have to be equitably distributed among the colleges and the universities so that some semblance of uniformity could be there. However the institutions which do better also deserve an extra bit of attention and encouragement as centres of excellence. To find extra resources for financing our vast higher education system, mere marginal enhancement of fees may just not be adequate. A more conscious effort requires to be made. National Education Bonds should be floated to mop up resources for long term investment in education. Though the return to educational investment cannot be of the order of returns that are expected from an industry or a commercial enterprise yet the investment in education of students in professional courses could be made returnable during the course of their entering into the carved professions by the concerned students. Similarly the universities which develop education-industry links, could be financed for projects that could make the industry more productive and rewarding thereby ensuring proper returns in due course of time. Even otherwise, the institutions could be so financed as to make themselves economically viable through their own investments and programmes in course of time. Allocation of money ever in the shape of grants without any social returns could not be a perpetual state function. Against the present wastage of manpower of educated youth, the society would appreciate the investment leading to healthy yields. If this was to be so the present scenario would change. There has to be a judicious mix of grants and investment that could yield positive results. The institutions that show encouraging results could be identified and their example emulated as models by others. The idea of one time grant which could be of the type of a fixed asset in the shape of foundational investment, could earn interest and make the institution finance its needs through it. This could also be explored on experimental basis. The offers of Trusts, if any, coming forward to own the establishment or takeover of colleges or the universities in a manner to ensure meeting their future financial requirements could also be considered. The acceptance of such an offer may lead to healthy competition in shaping their products. New work ethos is now needed in our colleges and universities both in the interest of studious students and painstaking teachers. The monopoly of the institutions to draw grants from the UGC, State Governments or the Central Government alone should be examined to be partly replaced through a conscious effort on their own part to provide support partially generated by themselves. This experiment requires to be examined in depth in its legal, political, experimental and even administrative aspects. No government can afford such heavy investments in education which are taken as subsidies and do not yield socially compatible results. The entire preposition calls for a national debate.

Autonomous Colleges

The concept of autonomous colleges has been a step towards seeking academic viability through bold experimentation with academic packages and teachers' involvement in teaching them. The flexibility in combination of subjects and their applicability, students' assessment, examinations and results have been assigned as a duty of the colleges concerned with the regional affiliating university performing the academic leadership role in the entire exercise. Unfortunately this initiative of the UGC has not met with the success that was expected of it. Not many colleges have opted for the new arrangement due to functional handicaps, financial constraints and lack of academic consolidation that should have marked this innovation in the country. Besides, the UGC too has not been able to modify the scheme in the light of the Indian experiment and make it more practical and attractive for many more to adopt it. Even the State Governments and the universities with their constrained vision have also not taken the scheme in their right earnest. The inherent deficiencies of the scheme have given rise to many apprehensions and have given the impression that the concerned teachers alone have to run this. The managements too have not been educated about the scheme. Its merits and demerits notwithstanding, the scheme no doubt holds the promise for greater initiative on the part of the teacher in order to make the whole exercise of teaching more student oriented and interactive. It is here that the two components i.e. the students and the teachers become more important than what they are in our current stream of conventional colleges where they have to undergo the routine courses and packages without any chance of their desired realignment or reordering and have to take the examinations in the university scheme of things. The present case of autonomous colleges requires to be so modified as to accommodate the academic initiative that the scheme envisages and that the accountability of the teachers adopting the scheme should be so ensured and compensated in their service role that they do not feel discouraged and do not leave the experiment midway before its results are visible in the job market. The autonomous colleges require to be given all the monetary incentives so that the scheme survives and we are free from the legacy of affiliation which of course has outlived its utility and is now required to be replaced or at least revised in toto.

Grant-in-aid is an important instrument to control the working of the educational institutions. Its disbursement on political considerations has led to many a serious problem in them. Large scale interference of powerful lobbies in the academic and administrative functioning of the colleges and the universities has been attributed to this. Lack of availability of any uniform guidelines either from the UGC or the Central Government has enabled the States to evolve their own rules to suit their individual spectrums of higher education. While in many States the conditions attached to disbursement of grant are objective enough to sustain the system yet in others political whims starve the colleges and the universities of their due share. Even after all these years of educational planning and submission of reports by various committees and commissions this aspect has escaped the serious thought of all concerned and the result is an uneven growth of the system with misplaced priorities. In fact the sheer plurality of courses, the indiscriminate and mindless opening of colleges and universities has eaten into the vitals of our economy linked to education. When the colleges are opened the universities are silent spectators and in the name of a human problem they are compelled to grant affiliation to them even though it is always well known that such colleges will only add to the swelling numbers of unemployed youth and create more problems. As we have sparse resources it cannot be expected of educational planning just to replicate the existing courses in colleges and universities when these facilities are otherwise available to the intending students through the correspondence courses all over the country. It is only the new combinations and courses that are required to be introduced even in the existing set up. The level of grants should be linked to such requirements as promote new courses and as are directed to employment generation programmes. Education may be a social function yet the heavy inputs in the system which have so far only provided a parking place for most of our youth, should not be encouraged. The system which has not yet yielded the desired results definitely deserves to be reviewed in terms of its investment and output even in the social context.

Administrative Aspect

These socio-economic realities apart, administrative aspect also deserves a fresh look for suggesting improvement in the system. Administration is the implementing arm of our academic leadership. Principals in the colleges and the Vice-Chancellors in the universities have a crucial role to play. Their initiative and thrust alone would give a new direction and purpose to the system. The crisis in education that is being faced now is partly due to the presence of disinterested and uninvolved heads in the institutions. Discouraged by the numerous constraints and pressures under which they have to work, survival for most of them is a trauma. They only mark their time. Their lack of interest and complacency worsens the situation. The institutions become dens of political activity, academic malpractices and many other maladies of the kind. While the tribe of academic innovators and committed edcuationists is extinct yet only those who excel in academic leadership should accept the challenge as a call of their soul to serve the country. This should not be accepted as a profession which may necessarily enable them to make some economic buck but should instead offer them missionary solace in having dedicated themselves to the task of social reconstruction. At the present juncture, educational mercenaries are doing the real damage to the system. When the headship of an institution is for a price, the work of the person too would be price oriented and not socially uplifting. Such a situation indeed is what has caused the present slide in the education. Besides this, objectivity in the matter of selections for these posts has to be emphasised. The persons linked to intra-rivalries in institutions do the extreme damage and have nothing to work for except the settlement of their own scores. Universities are the seats of highest learning and research. They are responsible for launching our youth into the shaping of our future. Their research has to be directed to social goals. Mere addition of research degrees would not enhance the quality of human resource in the country. The role of universities has to be redefined in terms of their social relevance. They are neither to be used as avenues for armchair teachers of little consequence nor for the students who are not to be useful social products. Student-teacher interaction has to be creative now. The position requires a fresh look.

While we care so much for the quality of education and keep on planning for it through our teachers and consolidation of infrastructural facilities etc., it is the students who have to be assigned the real place of importance in the order of our priority attention. They ultimately are to be our future human resource. Our growth pattern will be determined through them. The present problems of poverty, population, optimum utilisation of sparse resources will have to be solved by them through the kind of training and education that has been imparted to them in our educational institutions. In other words they are the determinants of the quality of our future life. It is in this context that they gain priority in all our perspective planning. In terms of resources, teachers, participative management, courses and social relevance they continue to be discussed in the context of our future strategies. Yet the required facilities that should be available to them in the formative years of their education in colleges and the universities escape our attention. Education is not merely a study of course books alone. It calls into it the entire environment and culture that goes to create a finished product of a student for life that he has to face. For this the preparation comes through in the institution with all its amenities and services that it has to offer to its students. The hostels, libraries, playgrounds, avenues for co-curricular activities, and other related opportunities that go with his mental training, acquire importance. Most of the colleges and the universities concentrate on the courses that enable the students to take the examinations and yield them better pass percentages. The enhancement of the quality of mind of the students through better facilities of playgrounds, libraries, laboratories and facilities for better expression, are not even referred to in the course of the development of the student. This is an issue that calls for a national debate to initiate a special plan of action to ensure that besides the prescribed courses the students get exposed to the library culture, laboratory working, participation in games and also have an opportunity to express themselves on issues of national importance. This indeed is necessary to make a complete man of a student who at present only qualifies an examination without anything to do with these basic qualities. An institution that does not contribute to the multidimensional growth of the students is doing half the job. Planning for this oft-neglected area of students' participation in community exposure to cultivate confidence, would add the much desired useful dimension to our effort at education of our youth.

Thus if education is to be used as a conscious tool for social change, planning will have to be repriortised in terms of students' services, teachers' orientation, autonomous management of institutions so as to make them more viable and accountable to social realities, besides a judicious code for the disbursement of grants and subsidies. The present crisis in education calls for some bold remedial measures otherwise the present slide will result into a catastrophe beyond our control. The colleges can no longer be ignored. The students and teachers have to be given their due priority in terms of attention and resources. The social openings have to be identified and our youth adequately trained with self-confidence and social responsibility for taking up positions there. Wastage in our system has to be checked. Experimentation for excellence may be promoted but mediocrity of floating student population will have to be offered an alternative so that it does not erode our sparse resources in our colleges and universities through its pressure. Politicisation of the system can no longer help. Structural adjustments wherever needed will have to be made operative. The administration of the institutions can no longer be a matter of erratic behaviour and political interference. It has to be in consonance with national requirements for which adequate planning has to be done along with a national level monitoring mechanism. This alone will help us ensure the desired social change through education while avoiding predictable pitfalls.

CALENDAR OF EVENTS

Proposed Date of the Event	Title	Objective	Name of the Organising Department	Name of the Organising Secretary/ Officer to be Contacted
August 11-16, 1992	8th World Congress for Rural Sociology	Theme : Rural Society in the Changing World Order	International Rural Sociology Association, USA	The Pennsylvania State University, 306, Agricultural Administration Buliding, University Park, Pennsylvania - 16802
August 16-19, 1992	55th Annual Meeting of the Rural Sociological Society	Theme : Rurality and the Global Environment	Rural Sociological Society, USA	-do-
August 26-28, 1992	Second International ISKO Conference on Cognitive Paradigms in Knowledge Organisation	To provide a forum for scholars working in the field of knowledge organisation	Madras Library Association in collaboration with Sarada Ranganathan Endowment for Library Science and University of Madras	Mr. S. N. Kumar Conference Secretariat, 5, Sivaganga Road, Madras-600 034
October 26-31, 1992	Third IAU Mid-Term Conference to be held at Alexandria, Egypt	Theme:Adaptation of University Management Structures and Strategies for New Requirement	International Association of Universities (IAU), France	Dr Franz Eberhard, Secretary General, International Association of Universities, 1, rue Miollis, 75732 Paris Cedex 15 France
November 9-13, 1992	16th World Conference on Distance Education for the Twenty-First Century	To give a view of the aspects of development in Distance Education in the Twenty-First Century	International Council for Distance Education, in cooperation with Sukhothai Thammathirat Open University (STOU), Thailand	Mr. Bruce Scriven, Program Chair—16th World Conference of ICDE, Queensland University of Technology, Locked Bag No. 2, Red Hill Queensland 4059, Australia
November 25-30, 1992	IAEWP 6th World Congress	The Congress will deal with (1) Socail Welfare, (2) Health Care, and (3) Educational Needs	International Association of Educators for World Peace (IAEWP) in co-operation with Social Action Movement, Malta	Dr. Suryanath Prasad, International Co-ordinator, IAEWP 6th World Congress & World President, IAEWP, Janta College of Education, P.O. Box 113, Chandrapur-442 401 Maharashtra, India

College Education in Orissa

S.P. Gupta*

The State of Orissa was created in 1936 but its institutions remained affiliated to Patna University for higher education as well as school education until 1944 when Utkal University was set up. The new university had, to start with, only two degree colleges and two intermediate and training colleges, namely Ravenshaw College, Cuttack (estd. 1868) , Khallikote College (estd. 1878), G.M. College, Sambalpur(estd. 1944) and Radhanath Training College, Cuttack (now Institute of Advanced Study in Education). Subsequently many educational institutions were started which include Sambalpur University and Berhampur University. At present there are in all five universities, four engineering colleges, three medical colleges and 360 other colleges. Under the Utkal University the first government college was started at Jeypur in Koraput district, the second at Phulbani and the third, the BJB College in 1958 when the capital of Orissa finally came over to Bhubaneshwar. An idea of the size of the educational system can be had from the following facts :

Total number of students appeared at the +2 exam (1991) ... 1,29,042

Students passed -do- (43%) ... 49,072

Universities	*No. of Colleges*
Utkal University	223
Sambalpur University	86
Berhampur University	54
Orissa University of Agriculture and Technology	–
Sri Jagannath Sanskrit University	–

The district-wise distribution of the colleges is given in Appendix-I. It may be observed therefrom that the coastal districts of Cuttack, Puri and Balasore stand at the highest rungs of the educational ladder with 87, 54 and 35 colleges respectively. On the contrary, the districts of Phulbani, Kalahandi and Koraput stand at the lowest, with only 8, 11 and 12 colleges respectively. The gross difference in the number of colleges is an index of the difference in the educational levels of the people of the respective districts.

Women's Education

A well educated womenfolk is the most essential requisite for the development of a society. Life in modern India does not make progress as fast as it should. While the government claims that there has been a phenomenal rise in the education of women,facts show otherwise. The achievement is far from satisfactory. The literacy rate among women in India is only 40% as compared to 64% among men. The respective figures for Orissa are 35% and 63%. As regards higher education, the percentage of women in the total student enrolment of the country is 34%. In the State of Orissa it is 26% which is 8% less than the national average. However, it may be pointed out that in the teaching departments of Utkal University the percentage of women in the students enrolment is as high as 65%. The Sambalpur University and Berhampur University which have shorter history of women education have progressively increasing number of women students. This is a significant development in the urban areas and augurs well for the future.

In general, women's education is not given the importance it deserves by the public. The masses still have the feeling that higher education for girls is a wastage, in fact, a stumbling block in their marriage. The effort of social leaders has not cut much ice as yet in Orissa. Even a famous college like Khallikote College, Berhampur, has at present only 20% women in its student population. By the way, the position of SC and ST students in the college is more depressing, being a mere 8% and 1% of total enrolment. The number of SC/ST teachers gives a dismal picture everywhere. For example, of the 192 teachers at GM College, Sambalpur, only 4 teachers belong to SC/ST.

What is needed is a movement to increase awareness of women's very important role in the development of the family, economic growth and social change. In addition, we must accelerate the work of spreading women's education at all levels. All institutions can admit women, of course, but if so demanded by parents in a developing society, special institutions for women's education have also to be set up. A glance into the growth of women's colleges in Orissa will show how tardy the progress has been.

In chronological order, the Government set up the Shailabala Women's College, Cuttack, Women's College, Berhampur and Rama Devi Women's College, Bhubaneswar. Private efforts resulted in Women's Col-

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**Additional Secretary, University Grants Commission, New Delhi.*

leges at Balasore, Puri, Sambalpur and Bolangir which were later taken over by the Government. In the seventies the Government established two women's colleges,one each at Baripada and Dhenkanal. In the eighties two colleges were started under private auspices and taken over by the Government. Some more colleges have been set up recently by private initiative in places like Sundargarh, Bhadrak, Kendrapara, Niranpara etc.

The special institutions for women have contributed a great deal to the advancement of women in Orissa. While each college is playing its role, those in the coastal districts have played major roles leading to a stage in which we find, for example, a majority for women students in the PG departments of Utkal University. One of the reasons for high proportion of women students in the university and its coastal colleges is the concentration of these students from developed regions, higher castes and richer families. All women students get free education, irrespective of the family income. In spite of that, the literacy rate, particularly for women belonging to SC,ST and other backward castes is much lower than those of higher castes and richer class. The Kodinga Tehsil in Koraput district is reported to have a literacy rate of 8% and female literacy merely 3%. In order to improve life-style, cultural level, health and hygiene, family income, in short to enhance the quality of life, education has to be imparted to all women to the best possible extent.

Infrastructure

Most colleges are running in two shifts, a day shift for all subjects and a morning shift generally for arts students. The Ravenshaw College, Cuttack, has over four thousand students and the Rama Devi Women's College, Bhubaneswar 2,772 students. Although the government asks colleges to separate the +2 stream, this is not followed in practice in any college, government or non-government. The Ravenshaw College has students of +2, pass and honours degree, postgraduate degree, M.Phil. and Ph.D. in Arts, Science and Commerce. Its infrastructure is crumbling under the load of the students. The situation is better in the newer colleges and those located in the suburban or rural areas. The concentration of higher education in the coastal districts of Balasore, Cuttack and Puri stretches the infrastructure facilities to the maximum while in other districts the pressure is bearable. Even in Bhubaneswar the colleges have reasonably good infrastructure.

Apart from the Ravenshaw College, several other government colleges run postgraduate courses. No private college is giving postgraduate programmes. The Ravenshaw College has 17 PG Departments while the GM College, Sambalpur, has 15 and the Khallikote College, Berhampur, 11 PG departments. Some of them impart education up to M.Phil. level. The colleges have uneven growth. The library and laboratory facilities are inadequate. There is enormous space problem in most of the colleges including that for classrooms, girls hostels and staff quarters.

Some colleges located in smaller places do provide excellent facilities e.g. Kendrapara and Larambha College. The Kendrapara College has besides a good library, hostels for 360 students and another women's hostel is being built. For each of the 17 honours departments there is a seminar room. There is a big playground and a network of roads. The campus is served by a water supply system, a post office, a bank, a non-resident students centre, a cooperative store, a health centre, a canteen and a primary school for the children of the staff.

The Larambha College under the Sambalpur University is built in rural settings and is very close to nature. The teachers and students live close by and it helps all-round development of students.

The student strength in the colleges varies widely. For example, in the colleges affiliated to the Utkal University, the position is as under:-

Student Strength	*Number of Colleges*
2000-3000	2
1000-2000	18
500-1000	31
200-500	132
100-200	10

Since the infrastructure is not commensurate with the enrolment, it tells upon the quality of education. Efforts have been made by the government to restrict the postgraduate education. Fifteen colleges only, all government colleges, have been allowed to provide postgraduate education throughout the State, apart from the university teaching departments.

Restructuring of Courses

A positive development on the undergraduate side has been the restructuring of courses. The subjects have been divided into four groups of foundation courses, compulsory courses, ancillary courses and core courses as under :

FOUNDATION COURSES

For Arts Students

(i) Evolution of life

(ii)Science in everyday life

(iii)Social and Cultural History of India

(iv) History of freedom movement in India and national integration

For Science Students:(iii),(iv) and Value System

COMPULSORY COURSES

(i) English

(ii)Modern Indian Language — Oriya

ANCILLARY COURSES

For Arts Students

(i) Rural Industrialisation

(ii) Local Self-Government

(iii) Cooperative Management

(iv) Rural Banking

For Science Students

(i) Electronics

(ii) Polymer Science

CORE COURSES

History, Economics, Political Science, Physics, Chemistry, Mathematics, etc.

In theory this is fine; in practice, it leaves much to be desired. The foundation courses are not taken seriously. The ancillary courses, which are applied in nature, cannot be implemented unless there are teachers to teach the subjects and well-equipped laboratories for doing the practicals. The government has to sanction the posts and also give funds for setting up laboratories. This is not being done due to shortage of funds. An alternative way could be to re-orient the existing teachers in the modern areas. For example, a Physics teacher could be trained in Electronics, a Mathematics/Physics teacher in Computer Science, a Chemistry teacher in Polymer Chemistry and so on.

Applied courses should be made part of the main courses as one of three subjects, thereby replacing one of the conventional courses. So long they remain ancillary, one cannot escape the feeling that they would be treated like Cinderella. In order to provide the necessary facilities for practicals, some of the colleges can be given the aid to set up the laboratories where students of the neighbouring colleges as well will do the practicals. The importance of the applied courses has not yet been fully realized but it is good to see that a beginning has been made, in principle, to restructure the undergraduate programme. These courses should also include applied arts, like graphic arts and performing arts since they are employment-oriented and they may also change the colour and tone of the milieu.

Planning of Colleges

The Orissa Education (OE) Act, 1989-90 amendment provides

(i) Permission to sponsor colleges

(ii)Fulfilment of certain norms laid down by Director, Higher Education

(iii) Concurrence by Government

(iv) Affiliation by concerned university

Generally temporary affiliation is granted till permanent concurrence is obtained from Government. Regular affiliation is granted by Syndicate only on fulfilment of conditions laid down in the Statutes.

(a) Fixed deposit of Rs.1 lakh for Arts, Commerce and Rs.1.25 lakhs for Science.

(b) Adequacy of land, building, etc.

(c) Qualified teachers in accordance with guidelines of U.G.C.

The feasibility of a college should be studied jointly by State Government and University which is not being done at present. The concurrence condition by government is :

(a) There may be one degree college in a block. The population criteria of 1,50,000 per block is also laid down.

(b) In Notified Area or Committee area, there may be more than one or one college depending upon population and demand.

These conditions are further being relaxed to have 2 degree colleges in a block. Since the infrastructure is not provided adequately, this may have a disastrous effect on the collage education system of Orissa which is not high in standards even at present.

Grant-in-aid to affiliated colleges is given at the end of 5, 7 and 9 years on increasing scale but on account of financial crunch this is deferred further. The consequence is that these colleges recruit staff with low scales of pay or those who give donation to the institution.

State Govt's Plans

Higher education in the State at the stage of +3 Degree is imparted by colleges run by the Government and by private management. During the 7th Plan period and the two Annual Plans of 1990-91 and 1991-92, the total expenditure in the State Plan sector has been of the order of Rs.4,698 lakhs and Rs.2,031.25 lakhs respectively. The proposed outlay for 1992-93 is Rs.831.78

lakhs in this sector. The highlights of the achievement during the 7th Plan period in this sphere were (a) Education at the postgraduate stage is imparted at the universities and in some selected Government colleges, (b) Introduction of new subjects in colleges, (c) Recruitment of 528 additional teaching staff for different colleges,(d) Opening of PG & M.Phil. Classes, (c) Taking over of three private colleges, (f) During the 7th Plan period the UGC sanctioned building schemes for 8 government colleges amounting to Rs.41,66,750 out of which the UGC share was Rs.15,41,920. The State Government under the State Plan have funded Rs.26,24,830 and (g) In respect of non-Government colleges during the 7th Plan, the State Government have funded Rs.6,87,701 which represents the State share towards building projects.

(a) *Government Colleges*

(i) There are 51 Government colleges including one College of Cost Accountancy and Management; of them 28 colleges have science stream. The need and demand for expansion of science stream particularly in government colleges have been keenly felt. It is necessary to introduce science teaching facilities in the remaining 22 Government colleges, majority of which are women's colleges situated in backward areas. Besides extending the existing facilities in other colleges, the 8th Plan proposals envisage that in respect of 22 colleges first and second year of degree courses in science will be opened during the last 3 years of the plan period.

During the 8th Plan period an outlay of Rs. 7,116.47 lakhs is proposed for the purpose. The break up is given in the following table.

(Rs. in lakhs)

Item	*Requirement for the 8th Plan*
1. Teaching Staff	2,318.21
2. Non-Teaching Staff	1,248.26
3. Buildings	3,200.00
4. Equipments, etc.	350.00

(ii) The 8th Plan proposals include introduction of new streams in Computer Science, Zoology, Marine Zoology and Oceanography in the 21 lead colleges of the State in a phased manner.

(iii) For improving the standard of teaching and providing adequate teaching facilities in some of the streams in Arts and Commerce faculties the outlay proposed for the 8th Plan is Rs. 1,050.00 lakhs.

(iv) There are 3 autonomous non-technical colleges in the State. These institutions have deficiencies in administrative and academic staff strength and infrastructure facilities. Buildings of these autonomous colleges are very old and require immediate renovation and improvement. Some modern and new streams of teaching and research are also to be taken up by these autonomous colleges to meet the growing demand. Their requirement for building and other infrastructure during the 8th Plan has been assessed as Rs.300 lakhs and Rs.100 lakhs respectively.

(b) *Non-Government Aided Colleges*

There are 257 non-Government aided colleges in the State. These Colleges are maintained substantially by grants by the State Government. The grant-in-aid policy and rule provides that from 6th year onwards a college will be entitled to 1/3rd, from 8th year 2/3rd and from 10th year full grant towards the expenditure on salary and allowances. Maintenance of buildings and bulk of the requirement for contingent expenditure is met by the managing committee. During the 7th Plan period the State plan budget provided Rs.1,649.73 lakhs towards grant-in-aid to these institutions; in 1990-91 the expenditure has been of the order of Rs.842.00 lakhs. The provision for 1991-92 stands at Rs.307.00 lakhs. During the 8th Plan period grant-in-aid has to be provided to these institutions for introducing new subjects, increasing seats, etc. Besides, as per existing policy decision of the State Government every year about 35 new colleges will come into the fold of grant-in-aid scheme. All these needs are inescapable and have to be accommodated in the State Budget. The total outlay required for the purpose would be about Rs.3,592.39 lakhs during the 8th Plan period. The estimate includes continuation of 1991-92 level of grant-in-aid. Under UGC assisted building projects of non-Government colleges the total outlay required during the 8th Plan would be Rs.350.00 lakhs.

Role of UGC

Development of colleges is an important area towards maintenance of standards, ensuring optimum utilisation of facilities, innovation, linking education to emerging occupational pattern and providing education to women.

With a view to identify the developmental needs, the UGC has devised a single window delivery system by holding a face to face discussion with the principals at a common place in each State.

The Commission's policy for development proposals of undergraduate and PG education in the 8th Plan mainly aims at :

(a) Improvement of Standards and quality of education.

(b) Removal of disparities and regional imbalances.

(c) Restructuring and diversification of courses.

(d) Granting of autonomous status for deserving colleges.

To achieve this, assistance has been provided for books and journals including strengthening of Book Banks, basic scientific instruments needed for proper laboratory work, construction of buildings and remedial courses. Assistance is also provided to colleges catering to the needs of SC/ST and for Backward/Rural /Border areas with relaxed norms. A college may receive on an average six lakh rupees in the plan period from UGC. In addition, funds are provided for autonomous colleges and postgraduate courses. In the VIII Plan 162 colleges out of 363 in Orissa would receive UGC's assistance for general development to the extent of Rs. ten crores in all. The remaining colleges can also receive assistance as and when they fulfil the conditions laid down by UGC. All this would go a long way in the development of colleges in the State of Orissa.

The colleges defy a summary analysis; their range is much too wide and the quality much too uneven. On close inspection Orissa seems to be a State with a highly regulated college education. Education policy has always had a political dimension. The commitment of the government to the development of higher education is no more stable than their politics. The pressure of numbers has to be met with consolidation of facilities in the existing institutions instead of starting new ones. But new subjects of applied nature must be started. The aims of education need to be redefined to serve new utilitarian ends as well as the traditional ones. Last but not the least, college education has to play its due role in the development of women, the weaker sections of society and the backward areas.

Acknowledgment

The author is grateful to professor L.K. Das, Director of Higher Education, Orissa, Maj. D.K.Nanda, Director of College Development Council, Utkal University, for the data and information supplied in respect of the college system in the State of Orissa. Thanks are also due to the Principals of Ramadevi Women's College, Bhubaneswar, Prannath College, Khurda and Ravenshaw College, Cuttack, for the on-the-spot observation of their infrastructures.

Appendix – I

Statement of Degree Colleges in the State

Sl. No.	*Name of the Dist.*	*Government Colleges*					*Non-Govt. Colleges*		*Grand Total*
		Autonomous	*P.G.*	*Degree*	*Total*	*Aided*	*Non-aided*	*Total*	
1	2	3	4	5	6	7	8	9	10
1.	Balasore	–	2	3	5	26	4	30	35
2.	Bolangir	–	1	1	2	10	4	14	16
3.	Cuttack	1	2	2	5	67	15	82	87
4.	Dhenkanal	–	2	1	3	15	6	21	24
5.	Ganjam	1	1	3	5	14	11	25	30
6.	Kalahandi	–	1	1	2	5	4	9	11
7.	Keonjhar	–	1	1	2	8	5	13	15
8.	Koraput	–	1	2	3	7	2	9	12
9.	Mayurbhanj	–	1	2	3	11	9	20	23
10.	Phulbani	–	1	1	2	3	3	6	8
11.	Puri	–	1	7	8	33	13	46	54
12.	Sambalpur	1	1	3	5	18	6	24	29
13.	Sundergarh	–	2	4	6	10	3	13	19
		3	17	31	51	227	85	312	363

Agro Climatic Regional Planning

A New Vista in Agricultural Development

Dr. Har Swarup Singh, Lieutenant Governor, Pondicherry, delivered the Convocation Address at the tenth convocation of Assam Agricultural University, Jorhat. He said, "The heart of the ACRP exercise lies in moving away from the macro or sectorial approach to development of location-specific strategies for agriculture & allied sector, taking into account the resource potential and constraints on its optimal utilization. This calls for an integrated area development approach, rather than a scheme-oriented financial exercise or 'more-of-the same by so many percentage point' approach." Excerpts

I am glad to be in Assam—a unique State, with breath-taking natural beauty and an enviable cultural heritage. There are very few places in India where the traditions are so rich, so dynamic as in this beautiful region. The State is endowed with contrasting features of hills and plains, highlands and swamps, and is criss-crossed by numerous big and small rivers draining into the mighty Brahmaputra. The region enjoys high rainfall and a temperate climate and its heterogeneous and fertile soils support lush green scenario round the year.

Still, the State continues to have some problems of agricultural development. Because of its special circumstances, productivity is low. The use of most of the modern farm inputs if noticeably less than in other areas. For instance, fertilizer consumption is 6.1 kgs per ha against the all-India average of 65.4 kgs./ha. (1989-90). 'Jhum' cultivation needs to be controlled, and soil conservation generally deserves more attention than has been devoted in the past. Effective flood control measures are also required. There is shortage of foodgrains relative to demand. However, the State has made rapid gains in many areas during recent years. The average yield of rice has moved up, and although still below the all-India average of 147 kgs./ha, is estimated at 1,231 kgs in 1989-90 compared to the 1984-85 figure of 1,049 kgs. The productivity of oilseeds in the State is reckoned to have gone up to 622 kgs./ha in 1989-90, which compares favourably with the all-India average of 619 kgs.

In these achievements, Assam Agricultural University has played a significant role. It has indeed been an important instrument of change for overall agricultural/rural development. The research programme of the University has been able to catalogue situation specific problems and has responded well by generating technologies for increased productivity. Extension education efforts for transfer of new technologies to the farmers have also been praiseworthy. The University is providing trained manpower not only to Assam but to the neighbouring sister States as well. And it is certainly moving with the times. Thus, recent efforts of the University in the fields of Fisheries and Agricultural Engineering are appropriate responses to the changing needs of the State.

Looking at the VIII Five Year Plan, I understand that the State will take up : extension of area under Rabi crops, particularly Rabi oilseeds like niger; double cropping and better crop rotations; development of minor irrigation, emphasising shallow tubewells, with the help of institutional finance; single window facility for delivery of inputs, including credit; a well defined seed plan; development of short-duration rice varieties; greater emphasis on horticulture, including marketing and processing; and increased productivity of all crop including tea, and of other agricultural enterprises.

Talking of the VIII Plan, I thought it would be an appropriate occasion to give you an idea of an innovative and challenging task of agricultural planning initiated by the Planning Commencing task of agricultural planning initiated by the Planning Commission in 1988, at national and regional levels—viz. planning on the basis of agro-climatic regions. This is a departure from the earlier practice of concentrating on the State as the unit of planning. In this laudable experiment of Agro Climatic Regional Planning (ACRP), your University has been an active participant.

Introduction—Concept, Past and Present Attempts

The underlying rationale of ACRP is quite straightforward : all development planning is about potentials and the constraints to their realisation; in agriculture, as in other primary activities, both these are largely determined by natural endowments; and an agro-climatic region, being a spatial unit with generally similar natural endowments, is a better basis for agricultural planning than a State. Therefore, the key to the concept of ACRP is the formation of homogeneous zones, known as Agro-climatic Zones (ACZs) or, as described by some, Agro- ecological or Soil-climatic Regions. Traditionally, both in India and abroad, delineation of such homogenous zones has been used for the purpose of optimised crop planning or for demarcation of specialised crop regions. Sometimes this has also been used for evolving strategies for specific crop-related problems like plant protection and varietal development. Resource factors, such as soil, climate and rainfall, have been generally used for the purpose of regionalisation.

There have been several Agro-climatic Zoning exercises in India in the past. A review of these was provided in the Planning Commission document on "Guidelines for Planning at the Agro-climatic Regional Level", 1988. The basic objective of these exercises, as in the case of those undertaken by the National Commission on Agriculture, the Census of INdia and the Indian Council of Agricultural Research (ICAR), has been to delineate homogeneous zones for the purpose of optimal development of agriculture, in line with the regional potential and problems. The current work on ACRP has drawn on such work done earlier on the subject.

The important objective of the Agro-climatic Regional Planning exercises has been to adopt an integrated systems approach to agriculture rather than take up crop planning in isolation. This has led to the consideration of some factors beyond the conventional soil-climate matrix, in demarcation of Zones. Factors like topography, water availability and particularly the ground water system—which are all very important in the context of agricultural planning—are now being explicitly taken into account by the Planning Commission. Hence, these zones represent a somewhat more sophisticated level of regionalisation than that implicit in soil-climatic zones.

15 agro-climatic zones, which are basically resource regions rather than cropping regions, have been delineated Most of the zones cut across State boundaries; however, district has been retained as the lowest constituent unit for data compilation.

Added Significance of the Approach

In spite of commendable growth in agricultural output—particularly of foodgrains—during the previous Plan periods, regional imbalances have widened and utilization of potential has been lopsided; this strongly suggests the need for a regionally differentiated strategy for the agricultural sector.

The major factors leading to such regional imbalances are believed to be the lack of location-specific technology and inadequate institutional and management networks. This is particularly true for ramified agricultural systems, where a holistic or integrated approach—with emphasis on land and water resource development and conservation—is the key to agricultural advancement. In rainfed areas, the farmers' capacity to invest in agriculture is meagre. Only the large farmers are able to take advantage of recent advances in science and technology. Such imbalances have led to greater disparity between large and small farmers, the latter also being more vulnerable to natural calamities and constraints. The intention of the Government to actively promote agricultural development—both by raising the Plan outlay for agricultural/rural programmes and through direct intervention for reducing the gap between regions and different socio-economic segments of the population—has added to the significance of carrying out a decentralised planning exercise. Increased cooperation is being sought by the Government from non-official agencies and individual, and elected bodies will play a key role in area planning. Sustainability considerations in the context of increasing evidence of soil and water degradation in various parts of the country also lend validity to this approach to planning. In fact, it is now widely recognised that agricultural planning based on agro-climatic zones can provide the framework in which we can achieve the objectives of integrated, long-term agricultural development. Within this broad framework of board framework of ACRP, I—as one with along association with this project (as Chairman of Zone No. 6, Trans Gangetic Plains) while serving as Vice-Chancellor of Haryana Agricultural University in 1988 and 1989; in-charge of the whole programme during 1990 as Member-Agriculture, Planning Commission; and as the Constitutional and Administrative Head of the Union Territory of Pondicherry, which was selected sometime ago as one of the areas for Agro-climatic Regional Planning at the District level—would like to give you a brief description of what has been achieved so far and the likely direction for the future.

Operationalisation of the Approach

The heart of the ACRP exercise lies in moving away from the macro or sectorial approach to development of location-specific strategies for agriculture & allied sector, taking into account the resource potential and constraints on its optimal utilization. This calls for an integrated area development approach, rather than a scheme-oriented financial exercise or "more-of-the-same by so many percentage points" approach.

The Planning Commission had decided to operationalize this approach in a sequential manner. Important stages of the exercise that have been completed by this time, are:

(a) Further division of the 15ACZs into more homogeneous sub-zones. The criteria considered have been more or less the same as the ones in respect of the ACZ. The emphasis is on resource factors rather than explicit incorporation of current crop/other enterprise patterns and levels of socio-economic development.

(b) Preparation of profiles of each ACZ and sub-region, including an inventory of Land & Water Resources, Population Composition, Crop Production System, Allied Agricultural Sectors including Livestock, Forestry, Fishery, etc. and, in some cases, Agricultural Support Systems.

(c) Evolution of development strategies with broad perspectives by considering explicitly the past development pattern, significant technological and socio-economic constraints in relation to identified potential at zonal/sub-zonal levels, and, based on these, recommending development options and thrust areas.

(d) Operationalisation of the suggested strategies through preparation of programme outlines in fairly specific terms at zonal and sub-zonal levels, with aggregation at the State level for consideration for the VIII Plan and beyond. The programmes considered for Agriculture & Allied Sector are not exhaustive, with the emphasis being on Land and Water Resource Development, Crop Plans including Horticulture, as well as strategic Allied Sectors like Livestock, Fishery, Agro-processing, etc., in keeping with their relevance in any particular ACZ and the need for integration with the crop sector.

Institutional mechanisms and identification and economic and non-economic instruments for pursuing the desired strategy were not integrated in the present exercise but intended to be included in future plans. The stage of ACRP currently contemplated aims primarily at operationalising this approach at the lowest feasible administrative level by taking explicity into account ground realities and institutional and social parameters in the planning process. This stage of exercise will take district as the unit of analysis and follow the same approach of sub-regionalisation and preparation of profiles and strategies as attempted in the zonal level exercise. However, one important difference will be that, in the district exercise, operational aspects of implementing the suggested strategies and programmes will be critically examined and resource-based technical solutions will also be integrated with the institutional mechanism and social imperatives.

An immediate outcome of the regional/sub-regional exercise was the setting up of a computerised information system covering all basic parameters at the sub-zonal level (some of them at the district level, too) which can provide useful information for evolving national level strategies and schematic interventions, while balancing strategic priorities and programmes at zonal and sub-zonal levels. Organisationally, also, ACRP provided a unique experience. While a Central Coordinating Committee and Liaison Group had been responsible overall for guiding and coordinating the entire activity with support from the Agro-climatic Regional Planning Unit (ARPU) located at Ahmedabad, the most redeeming feature in my view has been the involvement of State Agricultural Universities and Agro-economic Research Centres directly in the planning process. The Zonal Planning Team, which is headed by the Vice-Chancellor of one of the Agricultural Universities located in the zone, has spearheaded this activity. As will be amply clear from the very good work done under the chairmanship of your own Vice Chancellor, for the Eastern Himalayan Region – which includes Assam, the six other Northen Eastern States, Sikkim and a portion of North Bengal – the University's role is no longer restricted to traditional research and education but is becoming an integral part of the planning process. Representatives of scientific organisations, especially those in remote sensing applications, financial institutions such as NABARD, and of some voluntary agencies have also extended valuable assistance to the Zonal Planning Teams.

An equally redeeming feature is the speed and effectiveness with which most of the ZPTs aligned themselves with the State planning process not only for the State in which the University is located but also other adjoining States (eight States other than Assam in the case of your Agro-climatic Zone). It has indeed been encouraging to note that a number of State Governments showed their readiness to consider and integrate the recommendations of Zonal Planning Teams, both in the preparation of development strategies and in the formulation of specific programmes for the VIII Five Year Plan. As may be expected, this process of consultation and feedback between the State Departments and the Planning

Team has been more effective in those cases where the University Team and the State officials have worked together closely from the beginning.

Regionally Differentiated Strategies and Altered Focus on National Plans

After completion of the work on formulation of strategies and also preliminary estimates of Plan targets in core sectors by the Zonal Planning Teams, it appeared desirable to understand to what extent these reflected the regional potential and priorities and how they stood in relation to the earlier or extrapolated plans for the agricultural sector at national level. It would be difficult even to summarise the rich variety of analysis of the profile and problems as well as strategies brought out by the various Zonal Planning Teams.

By way of illustration of regionally differentiated strategies, I quote below a few statements from the work on strategy formulation for various zones as they appeared in the special supplement on "Survey of Indian Agriculture, 1989" brought out by "The Hindu".

(a) "The development option in two Agro-climate Zones (East Coast and West Coast Plains and Hills) revolve round soil and improving its health, conserving water and managing it efficiently" (Vice-Chancellor, Andhra Pradesh Agricultural University).

(b) "The goal is to arrest ecological degradation as it is necessary t maintain a fair balance between human population, livestock and nature.... The broad strategy should be to develop livestock ad crop as main systems" (Dr. S.S. Acharya and Shri A.S. Solanky writing for Western Dry Region).

(c) "Nearly 80% of area is rainfed and subject to recurring droughts. It is essential to practice water harvesting and moisture conservation techniques. Watershed approach provides the ideal means of integrated development" (Vice-Chancellor, University of Agricultural Sciences, Bangalore, writing for Southern Plateau Region).

(d) "The problem of poverty in Eastern INdia can be effectively solved only if the yield of paddy, the main crop in the region (Middle Gangetic Plains), substantially increases with competition increase in income" (Vice-Chancellor, Rajendra Agricultural University, Pusa, Bihar).

(e) "The Eastern Himalayan Region presents a typical example of poverty amidst plenty, which remains agriculturally backward despite being endowed with rich variety of resources for development....The most critical among these (problems) are soil erosion and degradation in the hills... recommended land use is primarily aimed at, apart from soil conservation, control of "Jhuming" in so far as the hills of North East are concerned" (Dr. P.C. Boara, Vice-Chancellor, Assam Agricultural University).

(f) A summary of the zonal strategies for each of the 15 regions also appeared in the Hindu Survey under reference (Adviser- Agriculture, writing on behalf of the Planning Commission).

Illustrations of the strategies mentioned above would bring home the point that the development programmes of the VII Plan and beyond for different regions have to be based on a clear understanding of the major constraints to enhanced agricultural production. Conservation and management of land and water resources should be the guiding principle rather than the isolated crop-oriented approach.

If we look through the strategies sub-region wise, a more interesting scenario emerges. For example, within Zone 2 (Eastern Himalayan Region) which has been divided into five sub-regions, cropping pattern strategies need to be stratified by flood-prone areas. While rice will continue to be the main crop for this zone, the sowing season and duration of this crop have to take into account the period of flood occurrence, which is estimated to inflict an average annual loss of Rs. 50 crores in crop production alone. Similarly for the East Coast Plains and Hill Region, while watershed management and irrigation and improved crop yield would be the dominant strategies, a special package is required to tackle the problems of alkaline and water-logged areas of about one million hectares spread over several districts on the East Coast.

Good work on translating these regional strategies and programmes into national plans has been carried out by ARPU. This reveals striking departures from the past trends in some of the programmes. The Zonal Planning Teams have clearly suggested a much larger thrust on the following :

(a) Water and Soil Conservation, particularly through Integrated Watershed Development Programmes.

(b) Minor Irrigation and Local Water Harvesting Structures.

(c) Livestock and Fodder Development.

(d) Horticulture and Agro-processing.

For example, in the four zones of the Plateau Region and in Gujarat, 40 million hectares have been identified as additional areas requiring water and soil conservation. The details are provided in "Agro-climatic Regional Planning : An Overview", prepared by the Planning Commission in 1989. Out of this area, about 20 million hectares are proposed for development during the VIII Plan. As against this, cumulative physical achievement by the end of the VII Plan under State and Centrally Sponsored Watershed Programmes was estimated at only around 13.5 million hectares. Similarly, the area proposed to be irrigated through restoration of tanks was out at 5.8 million hectares. Hardly any significant progress had been achieved in this respect during the VII or earlier Plans. Introduction of high value crops, particularly horticulture including vegetables, floriculture and medicinal plants, and also associated agro-processing activities have been given much larger focus in the plans prepared by the various Zonal Planning Teams.

In the agriculturally developed Zone No. 6, Trans Gangetic Plains (mainly Haryana & Punjab), the major thrust was on increasing the water/use efficiency nd commercialization of agriculture, moving from a crop system to a comprehensive agriculture-systems approach, highlighting other enterprises, such as growing of fruits and vegetables, floriculture, dairying, poultry, piggery and fishery.

In terms of crop planning, fodder assumes much large significance in many regions than has been attached to it so far. While detailed work is still continuing on the operational aspects of such regional priorities and their integration into State and national plans, I must sat that there is evidence to suggest that employment and production benefits of hitherto neglected programmes like watershed projects, fodder development, tank irrigation, and agro-processing are sizeable and thus deserve a much higher priority in terms of private and public investment.

Plans for the Future – Planning for District and Lower Levels

Even though there is general agreement on the need for continuing with ACRP and also on the usefulness of the role that can be played in agricultural planning by Agricultural Universities, as well as other institutions and local agencies, one needs to ponder deeply over the future of this worthwhile planning exercise.

As the Planning Commission proceeded in this work it became apparent that the approach was more relevant at sub-regional levels. This is only natural as the sub-region is not only more homogeneous in terms of naturela resource endowments, but represents of more homogeneous administrative and socio-economic situation. This suggested that one definite way of extending this exercise to its operational consummation is to decentralised it further, taking it to district and lower levels, such as Blocks, Panchayat Samitis and even Village Panchayats. But the process of taking the Agro-climatic Regional approach to lower level has to be in stages. To begin with, as part of the 1991-92 Work Plan of the ACRP Project, the Planning Commission has initiated detailed micro level exercise in 28 pilot districts representing all major agro climatic sub-regions and district planning and development systems. Three of these districts are located into the North Eastern Region, of which one, namely Nagaon, is in the State of Assam. I am happy t learn from the Vice-Chancellor that your University has already completed the first phase of the district exercise in Nagaon and also in West Kamonh in Arunachal Pradesh. It is interesting to note that the Nagaon district exercise is trying to operationalise, with explicit, recognition of ground realities and the institutional infrastructure, some of the suggestions mentioned earlier regarding cropping pattern strategies suggested in the zonal and sub-zonal exercises. In particular, stratification of cropping pattern pattern strategies suggested in the zonal and sub-zonal exercises. In particular, stratification of cropping pattern strategies separately for flood-free and flood-prone areas deserveses careful consideration. From my quick assessment of similar work in other districts of the country I am convinced that this is the only way an integrated Agricultural Plan – suited not only to local resource endowment but to the needs of the local population as well – can be prepared and operationalised through local initiatives and Government support. Another interesting feature emerging out of this exercise of at the district level relates to the significance of the non-agricultural sector even in the rural development context. I am happy to note that the various planning teams are quite seized of the relevant developmental issues-especially the agro-industrial nexus, rural-urban linkages, and actualisation of employment generation possibilities.

The disadvantage of a centralised system of planning, which had largely been the approach in the past, is that we do not know enough about local details, and hence, often we do not take these into account. The development model for each area – the district or lower units – will not only have to take account of the agro-ecological factors but, equally importantly, the prevailing institutional, socio-economic and cultural realities. Therefore, in selecting the districts, the Planning

Commission deliberately chose those which give us a wide variety of prototype situations in terms of these factors. Hopefully, the Commission will be able to come up with models which can be replicated in other areas, of course with necessary modifications and refinements. This will set in motion a process of participatory planning, involving farmers, local development agencies, voluntary organisations and the like. I also endorse the view that the work of the Universities should follow this line so as to be closer to the people, and more relevant and effective in terms of its research output and social relevance.

Apart from this spatial desegregation for more realistic and technical planning, there is a clear need for looking into the institutional dimension, and more importantly employment generation, of the suggested strategies and programmes. A point made at a Seminar organised by ARPU, Ahmedabad, last year to discuss the past progress and plans, was that the recommendations of ZPTs with regard to cropping patterns and land use should be considered indicative and not prescriptive. At the same time, we have to consider seriously several instruments available with us at national/regional levels, like support prices, credit, subsidies, marketing and other infrastructure, and also on the institutional side in the shape of rejuvenation of the Panchayati Raj System, etc.

The Planning Commission has followed up on the recommendations of the Ahmedabad Seminar in several ways. The most significant step taken in this direction has been to initiate more intensive dialogue with representative departments of State Governments, as well as Central Ministries of Agriculture and Irrigation. Measures have been taken to more actively involve scientists from the Agricultural Universities, State planners and administrators, as well as officials of the Planning commission, to ensure that the recommendations are really made operational and find a concrete shape in terms of the VIII Plan programmes of the various States. Clearly, the goal is to make this exercise more and more operationally useful. This is really the challenge, in which I expect the State Agricultural Universities to participate in a more meaningful manner.

On the methodological side, further refinements are being made and additional information collected — on past approaches, case studies, and actual plans drawn up for selected districts and other units (watershed basin, panchayat, development bloc etc.).

From the above description of the Agro-climatic Regional Planning work, it would be apparent that the academic training which has been imparted by this, or any other, Agricultural University could not have been specifically tailored to the complex variety of situations prevailing in different areas. But if the basic training in all relevant disciplines has been strong—and I have reason to believe that this has generally been the case — then the foundation of knowledge which has been laid in the minds of scholars who will be passing out will adequately equip them to analyse any situation that might be encountered, and to come up with optimum strategies and solutions for development of a large or a small region, using macro/micro level planning. For, it is abundantly clear to any agricultural scientist that developmental strategies and prescriptions cannot be relevant in their detail across large tracts.

In this particular region—the North East—one has to be extra careful in planning for development as the eco-system is very fragile. Shifting cultivation ('jhum') and other human interference, prevailing topography and high rainfall have caused denudation of forests and degradation of soil, with the resultant heavy run-off, massive soil erosion and floods in the lower reaches and basins.

Since this area has a high potential for agriculture including forestry and horticulture, a complete package of supply of inputs (quality seed, sapling, fertilizers and pesticides) coupled with marketing and processing, has to be organized for all area. The research back-up is not adequate for these difficult areas and needs further strengthening. The transport and communication network has yet to be strengthened for maintaining a supply system and marketing the produce grown in the area.

It must be re-emphasised that planning for Assam's economic advancement must keep in view the special ecological conditions as well as the socio-cultural milieu of the region.

SANJAY GANDHI POSTGRADUATE INSTITUTE OF MEDICAL SCIENCES

POST BOX 375, Rae Bareli Road, Lucknow-226001 (U.P.)

CORRIGENDUM TO ADVT. NO.7/92

published in these columns on 10-2-92

Under Essential Qualification & Experience it should be read as: Candidates should have completed 14,10,06 & 03 years of teaching and research experience in a recognised institution after postgraduation.

The DESIRABLE QUALIFICATION & EXPERIENCE mentioned in the above referred advertisement for Sl No.8 has inadvertently been published. This is applicable for post mentioned at Sl No.7 (UROLOGY).

The post advertised at Sl No.9 in the above referred advertisement should be read as Assistant Professor in Neuro Ophthalmology instead of Ophthalmology (Neuro-Surgery).

The other contents of the above referred advertisement remains the same.

The last date for receipt of applications is extended to **31.3.1992**.

DIRECTOR

CAMPUS NEWS

Management Development Programme for University Administrators

In its series of training programmes, the Centre of Human Resource Development (HRD), University of Delhi, recently organised a Management Development Programme for University Administrators. The training programme was organised with the objective to help participants to understand modern management techniques and latest innovations in technology and university administration. The main focus was on optimum utilization of resources and change of attitude including management of strategic issues in higher education, financial management, effective communication and leadership, motivation and interpersonal effectiveness, management information system, and application of computers in university system. Functional areas like Materials and Inventory Management, Educational Planning and Administration and Performance Appraisal System were also given due emphasis. The primary objective of this programme was to contribute towards professional development of administrators including Dy. Registrars, Asstt. Registrars and Admn. Officers who play the key managerial role in administration while taking important decisions. The training was designed with a view to impart knowledge, skills and attitudes keeping in view their real life situation problems in order to bridge the gap between theory and practice.

Inaugurating the programme Prof. A.L. Nagar, Pro-Vice-Chancellor of the University, emphasised the need of training and development of university administrators in view of the rapidly growing, dynamic and challenging university environment which was not only becoming more and more complex but more demanding than ever. In his illuminating and thought-provoking talk he gave a panoramic view of the existing university structure and the role of training and development in inculcating the values of commitment, dedication and result-oriented approach. The qualitative performance and effectiveness of administrators could improve at a rapid rate through these training programmes, he said and emphasised on the use of computers in all the faculties and departments in order to streamline the administrative procedures for better and faster communication.

Prof. Amrik Singh, former Vice-Chancellor, Punjabi University, Patiala, gave lively illustrations from his own experiences about university administration in view of his past association with this University as Director, South Campus, as well as Secretary, Association of Indian Universities. He emphasised the growing need of such training programmes and recommended these programmes for all levels of officers in the universities as well as other institutes of higher learning since Ministry of Human Resource Development was contemplating to set up a National Academy of Higher Education for the University Administrators under his guidance and he hoped that in near future the scope of training programme for university administrators would expand manifold.

Prof. S. Neelamegham, Dean, Planning & Admn. Reforms, University of Delhi, described the salient features of the training programme and held the participants spellbound with his presentation on Role of Administrators in improving the efficiency and effectiveness in the administration of the university. He gave some practical illustrations from his own experiences regarding changes in the internal and external environment of the university system and how to cope with new challenges which offer enough opportunities for experimentation, innovation and improvement of existing methods and practices.

Prof. P. Umashankar, Director, Indian Institute of Public Administration (IIPA), emphasised the need of management of strategic issues in administration through modern management techniques in order to help them to successfully discharge their responsibilities. He touched upon various aspects of modern system of higher education and suggested highly participative approach coupled with close interaction in related field while solving administrative matters. In view of his vast experience as Commissioner of Higher Education, Kerala, and Joint-Secretary in Ministry of HRD and other learned bodies, he came out with some more rational and useful tips to improve productivity irrespective of the political, economic and social pressures.

Prof. M. Adhikary, spoke on Man-Management related to job effectiveness and emphasised the need of team work and motivation with an emphasis on the need of regular training programmes for updating the knowledge in view of the vast explosion on the frontiers of knowledge. Being Proctor of the University, he presented some cases on disciplinary proceedings for the enlightenment of the participants.

Prof. Kanti Swarup from IIPA discussed about Materials Management and Inventory Control in view of the changing economic scenario and the modern inventory control techniques available for the purpose. He analysed the A, B, C method of inventory control and its utility in university system including the role of personal computers in processing the records.

Mr. R.P.S. Luther, Senior Manager, Human Resources, Engineers India Ltd. (EIL), enlightened the participants on Planning and Controlling Office work with emphasis on flexibility, simplicity, acceptability and dependability of office procedures. He also mentioned the impact of important decisions of each part of the office system in view of the complex problems affecting the subcomponent of the system for maintaining uniformity of work and also emphasised on Management of Time which was one of the most precious resources.

Mr. V. Ramamurthy, Finance Officer, South Campus, discussed in detail the elements of University Budgeting as a technique for planning and a tool for control of university finances. He also explained in details the need of preparing a budget, scrutiny of estimates, communication of budget allotment, control over expenditure, re-appropriation of funds.

Mr. C.L. Gupta, Internal Audit Officer, emphasised the role and importance of Internal Auditing and process of presentation of Audit Reports in the various committees. He gave an overview of internal auditing with scope and activities of internal auditing and its relationship to modern management theory. He focussed on the coordination of internal and external audit work to ensure adequate coverage for further minimising duplicate efforts.

Mr. Jagdish Verma, Management Consultant, described about Office Procedures in order to streamline the information for quick results. He elaborated in details the need of personal computers and other modern office automation techniques for sound decisions and positive results.

Mr. M.M. Ansari, Joint Director (Research) AIU, described the Role of Association of Indian Universities in Training and Development of University Administrators in view of the keen and active response of Association of Commonwealth Universities and the World Bank in HRD. He also mentioned about the role of other academic bodies in improving the administrative efficiency.

Mr. V.K. Rastogi, Dy. Director, HRD, University of Delhi, emphasised the need of inter-personal relations at work and self-awareness as well as awareness about others with the help of audio-visual aids. He mentioned various factors of inter-personal relationship and traits of personality and character needed for individual effectiveness with a focus on team work, coordination and leadership in all the aspects of the university administration. A video film on Office Automation and Computer Application supplemented by relevant lecture was also screened by M/s Apple Computers which provided lot of insight about various functions of modern computers.

In his valedictory address, Mr. K.B. Shukla, Secretary and Director, Directorate of Technical Education, Delhi Administration, appreciated the importance of growing role of administrators and administrative personnel in smooth functioning of universities and reinforced the need of organising such programmes at frequent intervals in order to expose the participants to the latest trends and changes in tools and techniques of administrative management in view of rapid growth of technology for raising the overall performance standard and quality of life. He also distributed training certificates to all the participants.

The programme attended by participants from Himachal Pradesh University, Kakatiya University, IIT, Kharagpur and other institutes of higher education, was directed, conducted and coordinated by Mr. V.K. Rastogi, Dr. Director, Centre for HRD, Delhi University.

CM Stresses Value Based Education

The Chief Minister of Andhra Pradesh, Mr. N. Janardhana Reddy, stressed the need for vocational and job-oriented courses, community-sponsored high quality educational institutions, the need for youth to develop idealism, etc. He prescribed compuslory weekly value-based educational courses and leadership training for students. He made these observations in an interview to the *Courier Newsletter* published by the Osmania University.

The Chief Minister who is also the Chairman of the National Policy of Education Review Committee, even advocated a two-year holiday from formal education after intermediate so that students could work in another State and comprehend the diverse problems of the country.

Speaking of the ongoing trend of privatisation of education in the State, Mr. Reddy said, "I firmly believe that the Government is always not well equipped to run educational institutions particularly in terms of maintaining high quality of education. It is in this context that I wanted more and more voluntary and community efforts to be made in promoting high quality educational institutions in the State. And wherever such efforts are not forthcoming Government will always step in and start educational institutions for the benefit of the students of those areas. At no cost, education will be neglected in any area".

Mr. Reddy lamented the lack of any programme in the curriculum for work experience and said that the colleges should conduct weekly, value-based educational courses compuslorily for all students. They should also conduct leadership training courses for the students. The students, he said, who had in them idealism, dynamism and capacity for leadership would be benefited by these courses. The conduct of such courses by the colleges will help in moulding students into humane individuals, he added.

Speaking about the role of university teachers in relation to social issues that affect the community and nation at large, the Chief Minister said, "the University teachers can play a vital role in shaping the society and the nation. By and large, they are not performing this role at present. But I also do not agree with the observation that they are confining themselves to academic instruction and research. The days of university teachers possessing great inquisitiveness and pursuing life long self-education have almost become a thing of the past. Most of the present day teachers appear to be satisfied with the basic education in their disciplines".

The Chief Minister, speaking about the pressure on universities after the Intermediate level, said Osmania had become gigantic and unwieldy and could easily be made into two universities. We should examine the delinking of colleges located outside Hyderabad from the University.

Kunzru Memorial Lectures

The School of International Studies at the Jawaharlal Nehru University has organised a series of 25 lectures for public on various major issues in Contemporary International Relations. The main theme of these lectures is "The New World Order: Challenges for the Nineties". Named as Pandit Hridyanath Kunzru Memorial Lectures, these are intended to promote knowledge on International Politics and India's Role in the World Affairs among those who have had no special opportunity of studying these problems. The specific topics change from year to year according to the changing situation in world affairs.

These talks cover developments in almost all the areas of world and all aspects of International Relations—Economic, Political, Social and focus attention on crucial issues, trouble spots as also their implications for India and the mankind. This year, as in the past, the main theme has been divided into sub-themes.

The first lecture in the series was recently delivered by the Vice-Chancellor, Prof. M.S. Agwani, with his talk on "International Politics in the 1990s".

Australian Literature for University of Delhi

Australian High Commissioner to India, Mr. David Evans, recently presented collection of nearly 200 books by Australian authors to Dr. A.L. Nagar, Pro-Vice-Chancellor, University of Delhi. These books will be available to students engaged in research on Australian literature. Mr. Evans said that this was the beginning of Australia's extensive efforts to bring its literature within easy reach of the scholars and academicians in this region. The role of recently formed Australia-India Council was also highlighted. "The Australia-India Council, when fully operational, will provide more scope for increasing academic exchanges between the two countries," Mr. Evans said. Professor (Mrs.) M. Kaul, Head, Department of English, thanked Mr. Evans and expressed a desire to receive more books on Australian literature.

Seminar on Dairy Industry

A two-day seminar on "Production, Marketing and Environmental pollutions related to Dairy Industry" was recently organised by the Tamil Nadu Veterinary and Animal Sciences University, Madras, in collaboration with the Indian Dairy Association (SZ). Nearly 150 delegates from different parts of Southern States apart from 50 invitees attended the seminar. The seminar was held in five technical sessions dealing with nutrition and management, breeding aspects, pollution problems, processing innovations and quality control and economics and marketing. Experts from the concerned disciplines chaired the sessions in which scientists, industrialists and technical experts presented their papers.

JNU Entrance Test

The entrance test for admission to various programmes of study at the Jawaharlal Nehru University (JNU) for the session 1992-93 will be held at 25 centres in the country (Ahmedabad, Bangalore, Baroda, Bhubaneshwar, Bombay, Calcutta, Chandigarh, Cochin, Danapur Cantt (Bihar), Dehradun Delhi, Gauhati, Hyderabad, Indore, Jaipur, Jammu, Lucknow, Madras, Madurai, Patna, Pune, Ranchi, Shillong, Varanasi, and Vijayawada) from May 20-22, 1992. According to the schedule for admissions, application forms will be issued up to March 31, 1992, while the last date for the receipt of these forms is April 6, 1992.

As in the past, $22\frac{1}{2}\%$ seats have been reserved for SC/ST candidates and 3% seats for physically handicapped candidates.

Candidates who are due to appear in the respective qualifying examination prescribed for eligibility for admission to a particular programme are also eligible to sit in the examination as per conditions laid down in this regard. However, in the event of selection, the admission shall be subject to their securing the prescribed percentage of marks in the qualifying examinations and submission of all documents of the qualifying examinations.

The announcement for admission to direct Ph.D. and part-time programmes will be notified separately in May 1992.

Seminar on Gandhian Philosophy

A seminar on Relevance of Gandhiji in Contemporary Society was held under the auspices of the Forum for Gandhian Studies in the Department of Philosophy, Gauhati University. Inaugurating the Seminar, Dr. Nirmal Kumar Chaudhury, Vice-Chancellor, emphasised Gandhian Philosophy of non-violence which was the utmost necessity at this critical juncture. Dr. Chaudhury thanked the University Grants Commission (UGC) for its keenness to establish a Unit for Gandhian Studies in Gauhati University.

Dr. Dilip Kumar Chakraborty, Prof. and Head of the Department of Philosophy, Gauhati University, who is also the Convener of the Forum for Gandhian Studies, explained the aims and objectives of the seminar.

Mrs. Indira Miri, an educationist, spoke on the Relevance of Gandhian Philosophy in the present situation of the state. Mrs. Nilima Dutta, a retired Reader of Philosophy, Gauhati University, also stressed the implementation of Gandhian ideals to make the coming century a peaceful one.

The inaugural session was followed by two academic sessions wherein a number of experts on Gandhian Philosophy from different parts of the State participated.

News from Agricultural Universities

New Projects for Kerala Agricultural University

The Council for Advancement of Peoples Action and Rural Technology (CAPART) under the aegis of the Ministry of Rural Development, Govt. of India, has sanctioned a research project on 'petti and para' to Prof. K. John Thomas, Head, Dept. of Irrigation and Drainage Engg., Kelappaji College of Agricultural Engg. & Technology, Tavanur, under the Kerala Agricultural University (KAU). The project with a total financial outlay of Rs. 11.28 lakhs has a duration of three years. The major objective of the project is to improve the efficiency of the existing 'petti and para' pump used in Kuttanad and Kole lands for dewatering operation, by modifying and improving the design to save considerable electrical energy for the State.

The Director, FERRO (USDA) has sanctioned the implementation of the project entitled "Etiology and Pathobiology of the carcinoma of the mucosa of the ethmoid in domestic animals" at the Centre of Excellence in Pathology, College of Veterinary & Animal Sciences, Mannuthy (KAU). The project with a total financial outlay of about Rs. 18.59 lakhs is to be completed within three years. The project will be implemented under the leadership of Dr. A. Rajan, Director, Centre of Excellence in Pathology.

The USDA funded research project on "Standardisation of tissue/apical meristem culture techniques in Horticultural Crops of Kerala, cashew and nutmeg" being implemented in the Department of Horticulture, College of Agriculture, Vellayani (KAU) has been granted extension of time till February 1993 with full financial assistance.

The Central Silk Board has approved the implementation of a project entitled "Standardising sericultural practices for the Agroclimatic conditions of Kerala," at the College of Agriculture, Vellayani (KAU). The project sponsored by the Central Silk Board has a financial outlay of Rs. 21 lakhs and a duration of three years. Dr. K. Sasidharan Pillai, Professor (Agrl. Entromology) is the principal investigator of the project and Dr. N. Mohandas and Dr. V. Muraleedharan Nair are the associates.

The project envisages studies on the inter-cultivation of mulberry in coconut gardens, its impact on cocoon production, varieties of mulberry and silk worm most suited to Kerala, rearing house and rearing practices under extreme climatic conditions, pest and disease incidence and their control measures.

New Varieties of Chilli & Brinjal

The ICAR financed ad hoc research scheme on 'Breeding for resistance to bacterial wilt in chilli and brinjal' conducted at the Dept. of Olericulture, came up with a number of wilt resistance varieties. "Surya" a purple fruited brinjal, SM6-6 a white long fruited variety and SM 141, a short fruited advanced brinjal selection were found to be resistant to bacterial wilt. The bacterial wilt resistant clustered chilli variety "Manjeri" developed in the scheme has been recommended for release by the Kerala Agricultural University variety release committee. Two single plant relations of chilli developed in the scheme, CA219-1-21-7 and CA219-1-19-6 were also found to be highly pungent and high yielding.

Chancellor Visits Konkan Krishi Vidyapeeth

"Agriculture is the basis for development of human civilization. Science and technology have also played a crucial role in the development of human civilization. The present era is experiencing explosion of knowledge which is not confined to any section. Knowledge is not only generated but is being communicated all over the globe through modern media of communication. The younger generation should try to upgrade and update their knowledge and skills so as to meet the future challenges", said Shri C. Subramaniam, Governor of Maharashtra State and Chancellor of the Konkan Krishi Vidyapeeth, while addressing the students and staff during his two-day visit to the University recently. He said that the responsibility of the teachers was more so that they could provide strength and wisdom to their students to meet the challenges. The most important thing is that we have to adjust ourselves to this change to make progress because change is the unchanging law of the nature, he added.

While referring to the problems before the country he said that increasing population was the most serious problem and we had to make progress in various fields to meet the needs of increasing population. We have to feed and clothe our people and that has to come from agriculture. Hence the future of our country depends upon agriculture. We have to increase the production in all the agricultural and allied enterprises and also provide purchasing power to the rural poor. Therefore, what is now needed is not only the green revolution or white revolution but a total rural revolution is called for. He referred to the resources available for development and said that irrigated agriculture had limited scope than the rainfed agriculture. Those concerned with agriculture should think as to how best resources like land and water could be utilised. Occupations like horticulture, aquaculture, sericulture, poultry, dairy and fruit & vegetable processing had tremendous potential in future and by using the highly modernised techniques like remote sensing and satellite, we should strive for detailed micro-level planning of agriculture and allied enterprises. Sh. Subramaniam expressed his concern over less participation of women in agricultural education. He said that education was the real vehicle for progress. Women's education was much more important than men's education. Hence more and more opportunities should be given to women particularly in agricultural education because they would be the best managers of homes and farms, he added.

The Chancellor also visited Dapoli, Wakawali and Vengurla campuses of the University and sought information about the education, research and extension education activities being undertaken by the University. He held discussions with the progressive farmers and applauded the work being done by the Konkan Krishi Vidyapeeth for the welfare of the farmers.

New Fodder Varieties Released

The University of Agricultural Sciences, Dharwad, has released Fodder Jowar, Ksheera Kranti for cultivitation. It is a selection from the segregating material received from Jamnagar in the year 1975. it is tall growing (280cm), thin stemmed, more leafy, profusely tillering type with good ratooning ability. The variety is comparatively free from downy mildew and leafy diseases. It has a loose panicle with small red pigmented seeds, gives higher yields of green fodder (40-52 tons/ha when harvested at milk stage under assured rainfall conditions), comes to maturity in about 115 days, suited for cultivation in Kharif and summer under irrigation. It is also called J-Set-3.

The university has also released a new Fodder Jowar-Ksheera Sagara — a across between IS-4797X J-Set-3, it is better than J-Set-3 in its quality with less fibres and soft stem, being more leafy the crude protein yield is significantly high. It is much relished by cattle, suited for Kharif season, responds well to fertilizer and irrigation. Comes up well even in scanty rainfall area and poor soils. The variety is comparatively more tolerant to leafy diseases and downy mildew.

It has a tall plant stature (300 cm), moderately broad and more leaves (16). Panicle is loose with medium sized red pigmented seeds. The maturity period is 115 days. Normally it yields about 40-45 tons of green fodder/ha and also has good ratooning ability.

Another variety released by the university is Ksheera Amruth—a new fodder maize. It possesses all good qualities of fodder. It grows very tall (280cm), is more leafy and retains green leaves at maturity which makes it to be more suited for fodder. The variety has white bold seeds. Maturity period is about 118 days. Remarkably tolerant to downy mildew and leafy diseases. Under normal conditions, it yields about 45-50 tons of green matter/ha and recommended for cultivation all over the State in all seasons.

Symposium on Yeast

A two-day National Symposium on Yeast Biology was recently inaugurated at the Chaudhary Charan Singh Haryana Agricultural University by the Vice-Chancellor, Dr. Amrit Lal Chaudhary. Two hundred delegates from all over India and abroad including Japan, U.K. and Switzerland participated in the symposium.

Addressing the delegates the Vice-Chancellor said that yeast had been an integral part of the animal and plant life since times immemorial. In India yeast was used by about 212 distilleries, 50 breweries, 403 sugar factories and 20 baking units besides a large number of other industries and pharmaceutical industries. As compared to this large scale use of yeast, the work on yeast for basic and applied research is carried out by a few universities and institutes with the result that there is little interaction between research workers of the academic institutes and technologists of the industries. He hoped that the fruitful discussions held at the symposium would strengthen this interaction. Appreciating the research work done on yeast by the university scientists, Dr. Chaudhry said that Indian Yeast Group, an appex body of the Yeast Researchers, had been formed only on their initiative.

Dr. R.K. Vashisht, Convener of the Symposium, highlighted the activities of the Indian Yeast Group. He said that to strengthen the interaction between the researchers and the technologists the Indian Yeast Group had organised in the past 6 years three national symposium on yeast, and besides reviewing the studies on research on yeast in India, the knowledge and the experience among research workers and the technologists of yeast-based industries had been exchanged resulting into quick acceleration of the work in this direction.

News from UGC

Countrywide Classroom Programme

Between 17th March to 24th March 1992 the following schedule of telecast on higher education through INSAT-1D under the auspices of the University Grants Commission will be observed. The programme is presented in two sets of one hour duration each every day from 1.00 p.m. to 2.00 p.m. and 4.00 p.m. to 5.00 p.m. The programme is available on the TV Network throughout the country.

Ist Transmission

1.00 p.m. to 2.00 p.m.

17.3.92

"Human Immune System: My Defence"

"Is Tense System in English a Problem? Feedback, Feedback"

"The Dinosaur-V: The Extinction of Dinosaur"

18.3.92

"N.D.T.-V: Ultrasonic"

"Archive: A Source for the Past"

"The Clock that time Us"

19.3.92

No Telecast

20.3.92

"Parabola-I"

"Prof. V.V.John Remembered"

"When Mosquitoes Go For a Swim"

21.3.92

"The Hands That Creates-I: Introduction"

"South West German Mosaic"

"The Week Ahead"

22.3.92

No Telecast

"South Wet German Mosaic"

"The Week Ahead"

22.3.92

No Telecast

23.3.92

"Radiation Hazards: The Natural Background"

"Management-XI: Planning"

"Saga of Silk-II: Silkworm Rearing & Mulberry"

24.3.92

"Synthetic DNA: Uses & Applications"

"Quantum Leap"

"German Studies on Indology"

IInd Transmission

4.00 p.m. to 5.00 p.m.

17.3.92

"Organic Reaction Mechanisms-I: An Introduction"

"Andrology — Science of Male Reproductive Disorders"

18.3.92

"N.D.T.-I: Advantages"

"The Great Pyramid: A Tomb or an Observatory"

"Soilless Farming and Biological Control"

19.2.92

No Telecast

20.3.92

"Fundamentals of Mechanics-II"

"Back to Nature"

21.3.92

"Science of Musical Instruments-II : World of Strings"

"Born 1949"

"The Week Ahead"

22.3.92

No Telecast

23.3.92

"Properties of Fluids-I: Viscosity"

"Management-VII: Organisation Structure"

"New Techniques in Fish Culture"

24.3.92

"Organic Reaction Mechanisms-II"

"Sir S.S. Bhatnagar"

"Sexually Transmitted Diseases (V.D.)"

MALVIYA REGIONAL ENGINEERING COLLEGE
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Further to advertisement No. 5/Estt/90, it has been decided that such of those candidates holding MBA degree in First Division after securing B.E. degree in Mech. Engg. with five years' experience in teaching/industry/research can also apply. Candidates who had already applied for the post need not apply again but they may, if they wish, update their bio-data.

Application forms and other particulars can be had on payment of Rs. 15/- through IPO/DD (Rs. 7.50 for SC/ST) in favour of the undersigned alongwith a self-addressed and stamped (worth Rs. 3/-) envelope of 24x10 Cms. or on cash payment at our office.

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BOOK REVIEW

A Useful Contribution

N. Krishnan*

Gurdip Singh. Global Environmental Change and International Law. New Delhi, Indian Society of International Law and Aditya Books Private Limited, 1991. xv + 184 p. Rs. 295/-.

The appearance of a book on global environmental change and International Law is timely and welcome for more than one reason.

In June this year an International Conference of major significance will meet in Rio de Janeiro. Officially entitled the U.N. Conference on Environment and Development (UNCED), it is popularly hailed as the upcoming "Earth Summit" – since problems and issues affecting the health of our planet and the welfare of the humans inhabiting it as well as the other life systems coexisting with us will be considered globally at the highest political level. Stockholm in 1972 was the venue of the first ever international consultation on the environment. Thereafter, exercises dealing with specific aspect of the enivornment have taken place, especially in recent years. However, Rio '92 will provide the opportunity for comprehensive and simultaneous treatment of all aspects together. Smt. Indira Gandhi shook everyone up at Stockholm with the declaration that "poverty was the greatest pollutant". That it continues to remain so is evident from the emphasis sought to be placed at the Rio Conference on the nexus between Environment and Development, which are so mutually interdependent, though seemingly in conflict with each other.

Unlike at Stockholm in 1972, when the developing countries of the South – barring exceptions like India – were generally disposed to dismiss the problems relating to environment as a byproduct of the excessive, perhaps extravagant, growth of the affluent countries and limited their involvement essentially to defending their own economic development concerns, the South has now woken up to the harsh reality that environment today has become a truly global issue, transcending the North-South divide and reaching across national frontiers and regional contours. Phenomena such as "global warming" and "green house effect", the damage done to ecosystems in different parts of the earth as a result of unrestrained exploitation of natural wealth or expansion of industrial growth are not confined to the few of the North. Developing countries must therefore go to the Rio Conference with more knowledge and supported by a more aware and aroused public opinion. This has certainly provided a good motivation for Gurdip Singh.

The second reason is the growing and widespread concern within the country over ecology related matters. If at the international level, a determined efforts has to be made to uphold the development end of the scale in order to maintain a just balance, at the national level, an equal effort has to be made to hold the scales even between the demands of economic growth and the requirements of the underlying eco-system. The desired goal is "sustainable development", although interpretations of the term may vary. Essentially, it refers to the totality of life and growth patterns which, on the one hand, acknowledge and maintain the equilibrium between the modern human and the natural environment sustaining life and on the other, recognize and respect equity between the present and future generations. Current ways of thinking and living should be mended and a conscious effort made to approach the desired optimal life and growth patterns. For this, a well informed public and an enlightened leadership have to be developed. And equally important, legislative measures and judicial response should build an acceptable framework of regulatory arrangements compatible with our developmental needs as well as our ecological imperatives. As Dr. R.S. Pathak (former Chief Justice of India and former Judge of the International Court of Justice) has said in his forward looking foreword to the book – "Until comparatively recently, the dangers attending global warming, acid rain and the loss of non-renewable resources were dismissed as the exaggerated fears of alarmist writers. They are now receiving the serious attention and close concern worldwide of scientists, jurists and law-makers". India is no exception to this.

A third reason, linked with the above is the purity of literature in the country to guide students and scholars of international law and relations. Environment and ecology undoubtedly represent a frontier discipline and we are still at the threshold. As Dr. Pathak has put it so well, again in his thoughtful

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Former Ambassador of India to the United Nations, New York and till recently Dean of the School of International Studies, Pondicherry University.

foreword, "Environmental problems have a way with them. One problem opens the door disclosing another problem, and that discloses another and so on. And very soon, we realise that despite all the achievements of our intellectual thinkers and legal philosophers, of present day science and high technology, of the codes of liability and responsibility which we attempt to devise, we are merely on the threshold of this great movement". But a beginning has to be made in assembling, analysing and presenting the corpus of knowledge available, even as it grows.

Gurdip Singh's book is a praiseworthy effort to break new ground. It seeks to provide a perspective, particularly from the jurisprudential angle, of the world scene relating to environmental change. Given the interdependence manifest in the world today and the inter-sectorality of problems of growth and environment to be dealt with, Gurdip Singh rightly adopts an interdisciplinary approach. As he says in his preface "The problem of global environmental change is basically a scientific problem and therefore legal solutions to the problem are linked with deep scientific understanding of the problem". He has attempted to build his legal superstructure on a firmly laid scientific foundation. He has indeed made a useful contribution to the growing body of literature on the subject.

The first chapter is a sufficient description of the manifold manifestations of the current change in the global environment and the challenge it poses. The phenomena of acid rain and global warming are explained and their impact assessed. The response hitherto is outlined and the need for systematic regulation and control is established.

Chapter two delves deeper into he scientific data. An interesting, though not exhaustive, presentation follows of environmentally sound technologies. Emphasizing that the search for new environment friendly technologies must go forward relentlessly, Gurdip Singh makes a plea for free exchange of the findings. The point is however, not elaborated further and the constraints inhibiting such free exchange are not analysed.

Principles of liability and compensation evolved by the OECD are explained in a short chapter on policy options.

The next chapter picks out landmarks in the evolution of jurisprudence relating to environment : the Trail Smelter Award, the Stockholm conference principles, the Economic Commission for Europe and its work in relation to air pollution, the Council for Europe, the European Economy Community and the OECD. The World Charter for Nature adopted by the United Nations in 1982 and the Vienna Convention for the protection of the Ozone Layer are studied. While they do not represent in themselves a significant advance in terms of substantive international action as distinguished from mere affirmation of principles, they led the way to the "Montreal Protocol on substances that deplete the Ozone Layer" in 1987. The Montreal Protocol which aims to globally reduce the emission of CFC's and halons is examined in detail. The reluctance of developing countries to go along with it is explained– "they must be assured of access to alternative technology and adequate cash to enable them to comply with the control machinery of the protocol". The Indian (and Chinese) objection is noted but the argumentation is much too brief.

The following chapter looks at the Indian scenario. The author notes that "environmental jurisprudence in India is at the infancy stage". Indian environment policy is described. Protection and improvement of the environment was included in the Directive Principles of the constitution by constitutional amendment in 1977. To regulate and control water pollution, the Water Act was passed in 1974. Another Act was added in 1981 for the prevention and control of pollution. The Environment Protection Act of 1986 was the first comprehensive measure aimed at safeguarding the environment, which has been defined in the Act to include water, air and land and the interrelationship among them and the living creatures which makes the ecosystem. A critical examination of the provisions follows, from which emerges the conclusion that much more needs to be done to translate theory into practice. The author also makes the point that legislative measures taken so far in India do not specifically address the problems of global environmental change. Assessing the judicial response, the author states that Indian courts have sought to develop environmental jurisprudence through judicial activism. The right to pollution-free environment is treated as a part of the fundamental right to life guaranteed under the Constitution. Several important cases handled by the higher courts are analysed e.g. Rutlam Municipality Vs. Vardichand (1980), N.C. Mehta Vs Union of India (1987). Finding the many suggestions made in the court judgments valuable the author endorses the setting up of environmental tribunals from which an appeal would lie with the Supreme Court. To assist the tribunals with objective expert advice, the setting up of ecological sciences research groups is recommended. The idea of an "Industrial Disaster Fund" mooted by Justice K.N. Singh is also deemed worthy of being pursued.

Gurdip Singh then briefly discusses the efforts in progress to develop an international liability regime. He shows that State liability for transgression of restraints relating to trans-boundary pollution falls within the ambit of customary law. He is impatient with the reluctance in some quarters to accept the logic of state responsibility for violations originating from within national territories. He makes an appeal for early codification of the liability regime on the basis of the good work already done by the International Law Commission. Then follows a discussion on negligence Vs Strict liability, the author favouring a pragmatic middle approach to suit the complex requirements of global environmental change. The next section on "avoidance of environmental harm" examines the duty of states to assess and to inform when environmental risk is apprehended in order to obviate or limit extra-territorial damage. While acknowledging the difficulty in resolving many practical questions, Gurdip Singh again pleads that the codification efforts should be pursued.

The last chapter entitled 'Action Plan' first assesses the comparative merits of adopting the 'convention-protocol' approach rather than the 'comprehensive convention' method followed by the U.N. Conference on the Law of the Seas in the early '80's and concludes that it is more manageable and attainable, but with appropriate modifications, viz, simultaneous negotiation and conclusion of parallel accords, bottom up approach with a supportive international apparatus. The vital role of non-governmental interest groups in promoting or blocking international efforts is acknowledged and a call is made for associating them in the negotiating process as well as in the subsequent implementation phase. A fuller involvement of the wide variety of actors and decision makers in environment would be conducive to producing more acceptable and enduring agreements. This is particularly so in the environment domain, since knowledge is ever expanding and more new data is constantly coming in. The media also has a crucial role to play in dissemination and follow up.

Given the great disparity in economic capacity of the South and the North, Gurdip Singh argues that the South must have access to new financing of $ 20 to $ 50 billion per year and recommends consideration of proposals like 'Ecovest' (a specialised investment banking intermediary) to promote alternative development schemes, the Global Environment Fund mooted by the World Bank and Debt-for-Nature scraps for converting debts into long-term conservation measures.

The author supports the establishment of an International Environmental Authority with monitoring functions and enforcement authority. Such a supranational authority inevitably envisages some cession of state sovereignty. He also makes out a strong case of the establishment of an International Environmental Court parallel with the International Court of Justice. How attainable are these in today's world? Even to accept these ideas as a basis for discussion, public opinion in important countries around the world would have to be canvassed and built up and the necessary political will generated.

The Action Plan, which presumably is intended to be the high point of the book, is not necessarily to be construed as a blueprint for success in the negotiation at the Rio Summit. That would be too simplistic, particularly when there is apprehension that the summit may not be able to bridge the differences and may end as mere declaratory achievement. But it does present an interesting and useful model, incorporating many ideas being bruited about in the preconference phase.

One might have hoped to have seen from such an erudite source as Gurdip Singh some more eight shed on the concept of "Sustainable Development" and also on the case which the South should make in facing the pressures brought to bear on it by the North.

Likewise, the inclusion in an Appendix of the full text of the important international instruments cited and examined by the author would have further enhanced the value of the book.

These comments should not in any way be interpreted as detracting from the obvious merit of an excellent book. It is well researched and suitably referenced. The presentation is scholarly and yet eminently readable even by the lay person. Gurdip Singh must be complimented in having successfully compressed so much within such a small manageable volume.

The book has been published under the auspices of the Indian Society of International Law and has been dedicated to the memory of late Judge Dr. Nagendra Singh, its former President and also former President of the International Court of Justice.

The dust jacket of the book states that the "book is intended to be a valuable asset for academicians, political scientists, jurists, sociologists and the student fraternity." This is more than likely to be fulfilled. Environment and ecology are subjects receiving increasing attention in our universities and the interdisciplinary approach of the book should commend itself to all serious scholars. But students and teachers alike, of international law and relations, will derive the most benefit from this book.

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AIU Library

Established in 1965, the AIU Library has acquired over the years a valuable collection of books and documents on higher education. Among the topics prominently represented are educational sociology, educational planning, educational administration, teaching & teachers' training, examinations, economics of education and country studies. Developing fields of adult education, continuing education and distance education, and educational technology are also well stocked.

The library is particularly strong in its collection of reports whether they are on the setting up of different universities or on the state of higher education. Files of annual reports of different universities are also maintained. Readers are kept informed of the latest acquisitions through our column 'Additions to the AIU Library'.

The library receives about a 100 periodical titles on higher education. All these are indexed regularly and a select list appears every month as 'Current Documentation in Education'. Similarly our column 'Education News Index' reports editorials and articles on higher education published in over 20 newspapers that are received in the library from all over the country.

The library is steadily building up a collection of audio and video cassettes on matters educational and maintains a well appointed Audio-Visual Room equipped with a double deck audio cassette recorder, a VCR and a colour TV monitor, and an overhead projector.

Doctoral Degrees awarded during the preceding month are reported as 'Theses of the Month', while registrations made for such degrees are flashed as 'Research in Progress'. Bibliographies are also compiled and supplied on demand.

Research Scholars and students of education are welcome to use these resources. The Library is open from 9.00 a.m. to 5.30 p.m. Monday through Friday. Access can also be had through inter library loan for which requisition must be made through your Librarian.

RESEARCH IN PROGRESS

A list of Research Scholars registered for Doctoral Degrees in Indian Universities

PHYSICAL SCIENCES

Mathematics

1. Acharya, Ravindra Shriram. **Some contributions to the theory of integral transforms.** Shivaji. Dr M S Choudhary, Department of Mathematics, Shivaji University, Kolhapur.

2. Chauhan, Yadu Kumar. **Some problems in topology.** H S Gour. Dr K S Dubey.

3. Dawar, Ravi. **Study of some problems in fixed point theory.** Vikram. Dr Sushil Sharma, Assistant Prof, Department of Mathematics, Govt College, Jhabua.

4. Gaikwad, Sharad Vithal. **A study of ideals in near rings.** Shivaji. Dr (Smt) Y S Pawar, Department of Mathematics, Shivaji University, Kolhapur.

5. Jadhav, Ashok Lingappa. **Some aspects of integral transforms.** Shivaji. Dr M S Choudhary, Head, Department of Mathematics, Shivaji University, Kolhapur.

6. Joshi, Santosh Bhaurao. **A study of univalent and multivalent functions.** Shivaji. Dr S R Kulkarni, Willingdon College, Sangli.

7. Mishra, Sadhna. **Some problems on approximation to a function by special orthogonal expansions.** Dr Sushil Sharma, Assistant Prof, Department of Mathematics, Govt College, Jhabua.

8. Pawar, Anandrao Ramchandra. **A study of transports in relativistic continuum mechanics.** Shivaji. Dr L Radhakrishnan, Prof and Head, Department of Mathematics, Shivaji University, Kolhapur.

9. Singh, Sandeep. **On boundry Fourier series.** H S Gour. Dr K H Srivastava.

10. Unde, Deelip Bapusaheb. **Non-geodesic flow in relativistic continuum mechanics.** Shivaji. Dr L Radhakrishnan, Head, Department of Mathematics, Shivaji University, Kolhapur.

Statistics

1. Rudragoud, Siddapa Biradar. **Estimation of some population parameters using auxiliary information in sample surveys.** Vikram. Dr H P Singh, Reader, School of Studies in Statistics, Vikram University, Ujjain.

Physics

1. Bhise, Basawant Vithoba. **Effect of divalent and tetravalent substitutions on the electrical and magnetic properties of Ni-Zn ferrites.** Dr S A Patil, Department of Physics, Shivaji University, Ujjain.

2. Desai, Jayawant Dinkarrao. **Preparation and physico-chemical characterisation of Bi2S3/As2S3 and Sb2S3 thin films.** Shivaji. Dr C D Lokhande, Department of Physics, Shivaji University, Kolhapur.

3. Dhole, Babusha Shivling. **X ray, electrical and magnetic properties of tetravalent ion substituted Mg-Zn power ferrites.** Shivaji. Dr R N Patil, Prof and Head, Department of Physics, Shivaji

University, Kolhapur.

4. Gopinath, A Bindu. **Raman and IR spectroscopic studies on some molecules relevant to biological systems.** Kerala. Dr S Devanarayanan, Department of Physics, University of Kerala, Kariavattom.

5. Holikatti, Siddharudha Gurunatharudha. **Investigations of thin film Bi2S3 and Sb2S3 based photoelectrochemical cells.** Shivaji. Dr L P Deshmukh, Department of Physics, Shivaji University, Post Graduate Centre, Solapur.

6. Karanjakar, Milind Manohar. **Structural characterization and electrical and magnetic properties of mixed ferrites.** Shivaji. Dr A S Vaingankar, Department of Physics, Shivaji University, Kolhapur.

7. Kolekar, Chandrakant Bira. **Studies on effect of doping in polycrystalline Cux Cd(1-x) Fe2O4 system.** Shivaji. Dr A S Vaingankar, Department of Physics, Shivaji University, Kolhapur.

8. Kulkarni, Anagha Jayant. **Studies on properties of ferroelectrics potassium vanadate, cesium vanadate and lithium vanadate and solid solutions of potassium cesium vanadate and potassium lithium vanadate.** Shivaji. Dr S H Chavan, Department of Physics, Shivaji University, Kolhapur.

9. Kulkarni, Harishchandra Ramchandra. **Holographic interferometry and its applications.** Shivaji. Dr M B Dongare, Department of Physics, Shivaji University, Kolhapur.

10. Magdum, Tukaram Shamrao. **Studies on ferroelectric silver vanadate ceramic doped with rare earth impurities.** Shivaji. Dr S H Chavan, Department of Physics, Shivaji University, Kolhapur.

11. Nagarbawadi, Mahiboobsab Ahmedhusen. **Some studies on properties of ferroelectric solid solutions of potassium niobate, sodium niobate, silver niobate with additives.** Shivaji. Dr K L Narayana, Department of Physics, Shivaji University, Kolhapur.

12. Palwe, Ashok Bhanudas: **Studies on chemically deposited CdS and Bi2S3 thin films and their use in photoelectrochemical cells.** Shivaji. Dr L P Deshmukh, Department of Physics, Shivaji University, Post Graduate Centre, Solapur.

13. Parihar, Ashok Kumar. **A study of magnetohydrodynamic instabilities in plasma.** Vikram. Dr R K Chhajlani, Reader, School of Studies in Physics, Vikram University, Ujjain.

14. Patidar, Kaluram. **Study of rotational energy transfer in molecular systems.** Dr P M Agrawal, Reader, School of Studies in Physics, Vikram University, Ujjain.

15. Patil, Maruti Ganpati. **Structural electrical and magnetic properties of tetravalent ion substituted Cd-Ni ferrites.** Shivaji. Dr S A Patil, Department of Physics, Shivaji University, Kolhapur.

16. Patil, Smrutika Shankarrao. **Study of ionospheric scintillations at Kolhapur.** Shivaji. Dr R V Bhosale, Department of Physics, Shivaji University, Kolhapur.

17. Shinde, Vilas Netaji. **Studies on pulse plating conditions and properties of Bi-Sr-Ca-Cu-O superconducting films.** Shivaji. Dr S H Pawar, Department of Physics, Shivaji University, Kolhapur.

Chemistry

1. Jahaina Ahad. **Complexes of some divalent metal ions with some polydentate ligands.** Kerala. Dr M R Gopalakrishnan, Prof, Department of Chemistry, Govt College of Engineering, Thiruvananthapuram.

2. Koya, S Ahamed. **Complexes of some trivalent metal ions with some polydentate ligands.** Kerala. Dr M R Gopalakrishnan, Prof, Department of Chemistry, Govt College of Engineering, Thiruvananthapuram.

3. Patil, Sucheta Vyankatrao. **Synthesis of oligodeoxy nucleotides with pendant groups at phosphorus.** Shivaji. Dr M M Salunkhe, Department of Chemistry, Shivaji University, Kolhapur.

4. Sagar, Ashok Dnyanu. **Synthesis and applications of aromatic polymides and modified polystyrenes.** Shivaji. Dr M M Salunkhe, Department of Chemistry, Shivaji University, Kolhapur.

5. Sarojini, K R. **Synthesis and characterisation of some lanthanide (III) complexes with substituted hydrazones.** Kerala. Dr P Indrasenan, Prof, University Department of Chemistry, University of Kerala, Thiruvananthapuram.

6. Sheeja, S. **Micronutrient status of major tuber crop growing soils in relation to soil properties.** Kerala. Dr N Gopalakrishna Pillai,Emeritus Scientist, Central Tuber Crops Research Institute, Sreekariyam, Thiruvananthapuram and Dr S Kabeerathumma, Scientist (SG), Central Tuber Crops Research Institute, Sreekariyam, Thiruvananthapuram.

7. Talap, Pandurang Dadu. **Spectroscopic studies of the hydration of hydrophobic cations and structural changes in aqueous multicomponent salt solutions.** Shivaji. Dr K J Patil, Department of Chemistry, Shivaji University, Kolhapur.

8. Thakur, Vibha. **Investigation on potential cardiotonic steroidal constituents of some Crotalaria plants.** H S Gour. Dr R N Yadav.

9. Wandre, Anil Gurudev. **Photometric determination of some metals with thiosemicarbazones.** Shivaji. Dr (Smt) V A Jadhav, Department of Chemistry, Shivaji University, Kolhapur.

10. Yadav, Vasundhara Krishnarao. **Structural studies of a polysaccharide occuring in plant seeds.** Shivaji. Dr A K Gupta, Department of Chemistry, Shivaji University, Kolhapur.

11. Yasmeen Syeda. **Phytochemical studies on the bio-active constituents of some cucurbitaceae species.** H S Gour. Dr R N Yadav.

12. Yogesh Chandra. **Synthetic studies in heterocyclic compounds.** Delhi. Dr M Kidwai, Department of Chemistry, University of Delhi, Delhi.

Earth Sciences

1. Bhat, Raj Kumar. **Environmental-geo-chemistry.** Delhi. Dr G S Roonwal, Department of Geology, University of Delhi, Delhi.

2. Jadhav, Hanamant Tatyaba. **Geological, geochemical, ore paragenetic and thermocryometric studies on the samples from the Bandalamottu mine, Guntur District of Andhra Pradesh.** Shivaji. Dr R R Patil, Centre for Postgraduate Studies, Shivaji University, Solapur.

3. Narayansingh, Jay Prakash. **Geochemistry of eastern Deccan basalts.** Delhi. Dr J P Shrivastava, Department of Geology, University of Delhi, Delhi.

4. Sabu, P K. **Modelling of the variations of the hydrogeological conditions due to Thanneermukkom Barrage, Kerala.** Kerala. Dr P T Roy Chacko, Lecturer, Department of Geology, University of Kerala, Kariavattom and Dr G Prema, Technical Officer, Department of Geology, University of Kerala, Kariavattom.

5. Syed Khaja Mohiddin. **Geo-trajectory and metamorphic evolution of Eastern Ghat grandulites: Metamorphic geology.** Delhi. Dr P K Verma, Reader, Department of Geology, University of Delhi, Delhi.

6. Wesanekar, Pradip Rajaram. **Geological, geochronological and fluid inclusion thermocryometric studies of granite rocks around Degloor, Nanded District, Maharashtra.** Shivaji. Dr R R Patil, Postgraduate Studies Centre, Shivaji University, Solapur.

Engineering & Technolgy

1. Harikumar, B S. **Concurrent methods for dynamic data structures.** Kerala. Dr M Ramachandra Kaimal, Reader, Department of Computer Science, University of Kerala, Thiruvanan-

thapuram.

BIOLOGICAL SCIENCES

Microbiology

1. Gairala, Sunil. **Studies on development of a stable, potent, immunogenic and less reactogenic acellular pertussis vaccine.** HP. Dr Harminder Singh, Central Research Institute, Kasauli.

2. Nath, Dipa. **Propagation of Nakayama IIIH JE virus strain in primary chick embryo cells for preparation of inactivated tissue culture JE vaccine.** HP. Dr Harminder Singh, Central Research Institute, Kasauli.

3. Sharma, Naresh Chand. **Taxonomical studies of the Bacteriophages of Salmonella Bareilly.** HP. Dr Harminder Singh, Central Research Institute, Kasauli.

Botany

1. Bali, Anju. **Baculoviruses in plant protection: Gene expression under baculovirus promoter.** Delhi. Prof C R Babu, Department of Botany, University of Delhi, Delhi and Dr R H Das, Centre for Biochemicals, Mall Road, Delhi University Campus, Delhi.

2. Gupta, Promila. **Reproductive biology of some economically important trees.** Delhi. Dr K R Shivanna, Department of Botany, University of Delhi, Delhi and H Y Mohan Ram, Department of Botany, University of Delhi, Delhi.

3. Joshi, Anupam. **Biological nitrogen fixation: Taxonomy and ecology.** Delhi. Dr C R Babu, Department of Botany, University of Delhi, Delhi.

4. Pathak, Anupama. **Insect fungal parasites.** Delhi. Dr K G Mukerji, Department of Botany, University of Delhi, Delhi.

5. Patil, Satishkumar Shamrao. **Physiological studies in sugarcane under the influence of leaf applied chemicals.** Shivaji. Dr T M Patil, Department of Botany, Shivaji University, Kolhapur.

6. Pawar, Sunil Ganpatrao. **Physiological effects of an antitranspirant and long chain fatty alcohols on water stressed crop plant, Sorghum.** Shivaji. Dr T M Patil, Department of Botany, Shivaji University, Kolhapur.

7. Sharma, Sunita. **Experimental studies on reproductive biology of flowering plants.** Delhi. Dr K R Shivanna, Department of Botany, University of Delhi, Delhi.

8. Srinivasa Rao, S. **Reproductive biology in flowering plants.** Delhi. Prof K R Shivanna, Department of Botany, University of Delhi, Delhi.

Zoology

1. Kale, Ramchandra Baburao. **Zoophysiological studies on mangrove bivalve,** Geloina proxima **Prime.** Shivaji. Dr B K Pawar, Department of Zoology, Shivaji University, Kolhapur.

2. Karnail Singh. **Rodents and their management around Chandigarh.** Panjab. Dr N R Kalla, Department of Biophysics, Panjab University, Chandigarh, Dr Chander Sheikher, Department of Entomology and Agriculture, Dr Y S Parmar University of Horticulture and Forestry, Nauni, Solan and Prof Usha Kanwar, Department of Zoology, Panjab University, Chandigarh.

Medical Sciences

1. Arvinder Kaur. **Acute effects of fluid overload on new born rabbit lung.** PGI.

2. Chugh, Yati. **A comparative study of some pyrethroid and organochlorine insecticides on neuropsychopharmacological functions in albino mice/rats.** PGI.

3. Goyal, Renu Bala. **Effect of activated gut macrophages on different strains of** Giardia lamblia **and enterocytest: Study of the mechanisms involved in an experimental model.** PGI.

4. Mehta, Uma. **Effect of antitubulin and anticalmodulin drug on atherogenic activity of smooth muscle cells exposed to hypercholesterolemic condition in vitro.** PGI.

5. Verma, Anita. **Multiple dopamine (D1/D2) receptors and their interplay in the expression of behaviour and action of centrally acting drugs.** Panjab. Prof S K Kulkarni, Department of Pharmaceutical Science, Panjab University, Chandigarh.

THESES OF THE MONTH

A list of Doctoral Theses accepted by Indian Universities

PHYSICAL SCIENCES

Mathematics

1. Anamika, B M. **Dispersion effects on nonlinear double diffusive convection in anisotropic porous media.** Bangalore. Dr P K Srimani, Department of Mathematics, Bangalore University, Bangalore.

2. Changat, Manoj. **Studies on convexity in some discrete structures.** CUST. Dr T Thrivikraman, Prof and Head, Department of Mathematics and Statistics, Cochin University of Science and Technology, Kochi.

3. Das, Kanika. **Some exact solutions in 4 - and 4-N- dimensional general relativity.** Gauhati. Dr P Borgohain, Prof, Cotton College, Gauhati.

4. Pakkiam, C. **Studies in graph theory, graphoidel coverings of graphs,digraphs and hyper graphs.** Madurai.

5. Rana, Surendra Singh. **Certain studies in the constructive function theory.** Durgawati.

6. Sheela, R. **The stability of flow through and past porous media.** Bangalore. Dr N Rudraiah, Vice Chancellor, Gulbarga University, Gulbarga.

7. Sinha, Sujata. **Some problems on automata theory.** Calcutta.

8. Usha Devi, J. **Topics in algebra and analysis: Various aspects of amenability and areas regularity with respect to semigroups.** Madurai.

Statistics

1. Abbaiah, R. **Econometrics of price theory, production function analysis with entry and exit conditions.** Venkateswara. Dr C Subba Rami Reddy, Reader, Department of Statistics, Sri Venkateswara University College, Tirupati.

2. Venkataramaniah, M. **Some contributions to crime models: An econometric approach.** Venkateswara. Dr P Balasiddamuni, Lecturer, Department of Statistics, Sri Venkateswara University College, Tirupati.

Physics

1. Anavekar, R V. **Investigations in certain borate glasses.** Bangalore. Dr N Devaraj, Prof, Department of Physics, Bangalore University, Bangalore and Dr J Ramakrishna, C/o Dr N Devaraj, Department of Physics, Bangalore University, Bangalore.

2. Ashok Kumar. **Thermal analysis and modelling of solar distillation systems.** Delhi.

3. Bhatnagar, Shashank. **Studies in Lorentz-invariant Bethe-Salpeter dynamics: (a) Spectra of gluonium, glueball and hybrid states, (b) Interconnection between 3D and 4D forms of the BSE and some applications.** Delhi.

4. Chakrabarti, Somnath. **Some theoretical studies of low and high energy heavy ion collisions and related phenomena.** Calcutta.

5. Nirageri, Hanumappa Gundappa. **Techniques to determine the electron density of materials and tissues using compton scattering.** Karnatak. Dr T S Mudhole, Reader, Department of Physics, Karnatak University, Dharwad.

6. Saikia, Amar. **Studies on quantum chromodynamic structure functions.** Gauhati. Dr Dilip Kumar Choudhury, Department of Physics, Gauhati University, Guwahati.

7. Siddiqui, Mohd Abdul Aleem. **Piezo-optic studies in some cubic crystals.** Osmania.

8. Sreekanthan, K N. **Growth and characterization of cadmium chalcogenide thin films for active device applications.** Patel. Dr G K Shivkumar, Reader, Department of Physics, Sardar Patel University, Vallabh Vidyanagar.

9. Tauseef Ahmad. **Some studies on interactions of carbon and silicon nuclei at 4.5 Gev/A in nuclear emulsion.** AMU. Dr M Zubair Ahsan, Reader, Department of Physics, Aligarh Muslim University, Aligarh.

10. Varma, Poornima. **Drift instabilities in laboratory and space plasmas.** HS Gour. Dr M S Tiwari, Department of Physics, Dr Hari Singh Gour Vishwavidyalaya, Sagar.

11. Vasanta Rao, Tunikipati. **Mass scales in E6 with and without supersymmetry.** Andhra.

Chemistry

1. Anantharaju, S. **Studies on pyrophosphate glasses.** Bangalore. Dr B S Sheshadri, Prof, Department of Chemistry, Central College, Bangalore and Dr K J Rao, Prof, Solid State and Structural Chemistry Unit, Indian Institute of Science, Bangalore.

2. Annapurna, Kottapalli Gowri. **The synthesis and biological activity of some oxygen heterocyclics.** Andhra.

3. Anoop Kumar. **Analytical chemistry of palladium extractive separation of palladium from some related elements and its determination.** Kurukshetra.

4. Banerjee, Nripendra Nath. **Investigation into the physicochemical characteristics of coal washery effluents and their utilisation in optimisation of the effluent treatment practice.** ISM. Dr D Guha and Shri A K Ghosh, Central Mining Research Station, Dhanbad.

5. Chakraborty, Dilip Kumar. **Study on the effect of the physicochemical parameters on the processing of coal fines.** ISM. Dr P K Gangopadhyay and Dr K Sen, Central Fuel Research Institute, Dhanbad.

6. Chandrasekaran, R. **Studies on organic sulphur compound (1H and 13C NMR study of substituent effects in mono-di-and tri-substituted diphenyl sulphides, sulphoxides and sulphones.** Madurai.

7. Devinder Kumar. **Heterocyclic compounds synthesis and spectral studies of some pyrazoles and bipyrazolyls.** Kurukshetra.

8. Ekhe, Jayant Dattatraya. **Organic chemistry of the hemicellulose and lignin materials obtained from mango stem and baggase.** Nagpur. Dr M G Paranjpe, Department of Chemistry, Nagpur University, Nagpur and Dr J D Dhake, Department of Chemistry, Nagpur University, Nagpur.

10. Gadreeyar, Tagi. **Studies on structure activity relationship of some tertiary amine adducts of some metal-salicylhydroxamates.** Devi Ahilya. Prof P V Khadeekar, Department of Chemistry, Devi Ahilya Vishwavidyalaya, Indore.

11. Ganesan, M. **Electrical double layer structure in the presence of adsorbed organic molecules.** Alagappa.

12. Goyal, Seema. **Hypervalent iodine in organic synthesis: Synthesis of 2-arylalkanoic acids and some heterocyclic compounds from the oxidation of various ketones using iodine (III) reagents.** Kurukshetra.

13. Iqbal Ahmad. **Removal of siliceous impurities from Salem magnesite by physical and chemical means.** ISM. Dr P K Gangopadhyay and Dr D Chandra.

14. Jain, Praveen Kumar. **Synthesis and their biological activities of some novel derivatives of heterocyclic compounds.** H S Gour. Dr S K Shrivastava, Department of Chemistry, Dr Hari Singh Gour Vishwavidyalaya, Sagar.

15. Keshav Mohan. **Synthesis and reactions of quinoxalines.** CUST. Dr P Madhavan Pillai, Prof and Head, Department of Applied Chemistry, Cochin University of Science and Technology, Kochi.

16. Mahato, Prem Kumar. **Charge transfer initiated polymerization.** Dibrugarh. Prof N N Dass, Department of Chemistry, Dibrugarh University, Dibrugarh.

17. Narender Reddy, V R. **Synthesis of novel heterocyclic triterpenoids and chemical examination of some euphorbiaceae plants.** Osmania.

18. Palchaudhuri, Amita. **Studies on the chemistry of naturally occurring phenanthrene derivatives and isoprenoids.** Calcutta.

19. Rajkumari Radhesana Devi. **Spectro-photometric determination of some metals using N-benzoyl-phenylhydroxylamine (BPHA) as the complexing reagent and 1,2-dichloroethane as solvent.** Gauhati. Dr N K Baishya, Prof, Department of Chemistry, Gauhati University, Guwahati.

20. Ramesh Babu, C N K. **Studies on electro deposition and characterization of nickel composites.** Madurai.

21. Ravi Shankar. **Chemistry of natural products: Some structural and synthetic studies.** Madurai.

22. Roy, Jahar. **Studies on coal and heat treated coal by molecular probe chromatography.** ISM. Dr P K Gangopadhyay and Dr O K Guha, Central Fuel Research Institute, Dhanbad.

23. Sharma, Yogendra. **Physico-chemical and biochemical studies on collagenous and non-collagenous proteins of cartilage.** Calcutta.

24. Sil, Sumita. **Studies on some analytical aspects of natural and modified fats.** Calcutta.

25. Sinha, Sebani. **Studies on natural products and pericyclic reactions.** Calcutta.

26. Sreekala, R. **Studies on some metal complexes of biologi-**

cally important ligands. CUST. Dr K K Mohammed Yusuff, Reader, Department of Applied Chemistry, Cochin University of Science and Technology, Kochi.

27. Subrahmanyam, Bulusu. **A study on radical addition, homopolymerization and copolymerization.** Dibrugarh. Prof N N Dass, Department of Chemistry, Dibrugarh University, Dibrugarh and Dr J N Barua, Director, Regional Research Laboratory, Jorhat.

28. Upender, V. **Synthesis of some biologically active compounds.** Osmania.

Earth Sciences

1. Abbi, Anil Krishna. **Hydrogeological studies of Tupari Halla Basin, Karnataka, India.** Karnatak. Dr S C Puranik, Reader, Department of Geology, Karnatak University, Dharwad.

2. Behera, Purnananda. **Geology of the IB-Valley coalfield with special reference to spontaneous combustibility of its different seams.** ISM. Dr D Chandra.

3. Chaudhari, Shailendra. **Tectonics and dam foundation rock problems, Narmada Sagar Dam Project, Narmada Valley, India.** ISM. Prof V D Choubey, Department of Applied Geology, Indian School of Mines, Dhanbad.

4. Desai, Hanumantrao Dharmaraj. **Geological studies of the rocks at and around Jambhunath Hills, Bellary District, Karnataka State.** Karnatak. Dr N W Gokhale, Prof (Retd), Department of Geology, Karnatak University, Dharwad.

5. Gauhar Mahmood. **Hydrology and ground water potential of Kali-Ganga Sub-Basin in parts of Ghaziabad Distt, U P.** AMU. Dr Mohammad Sami Ahmed, Reader, Department of Geology, Aligarh Muslim University, Aligarh.

6. Pant, P Ramachandra Rao. **Geophysical exploration techniques for Gondwana coalfields with new approaches in seismic refraction method and application.** Osmania.

7. Ramachandra Reddy, R. **Geology, petrology and distribution of chemical and optical parameters in the tertiary coals of Jammu, Jammu and Kashmir, India.** ISM. Dr D Chandra.

8. Sangoormath, Prabhakar S. **A study of the geology and gold mineralisation at Buddini area of Hutti-Maski Greenstone Belt, Raichur District, Karnataka, India, with special reference to exploration aspects.** Gulbarga. Dr R Nijagunappa, Chairman, Department of Mineral Exploration, Post Graduate Centre, K D Nagar, Sandur.

Engineering & Technology

1. Guha, Abhijit. **Reliability assessment of surface mining equipment system.** ISM. Prof A De, Indian School of Mines, Dhanbad and Shri S Modi, Coal India Limited, Dhanbad.

2. Palanichamy, C. **Economic generation and optimisation studies in electrical power systems.** Madurai.

3. Shriram Prasad. **Modelling and simulation of fluidized-bed coal combustor.** ISM. Dr G V Reddy, Asstt Prof, Fuel and Mineral Engineering, Indian School of Mines, Dhanbad.

4. Venkata Rama Krishna, Sonti. **Studies on continuous ethanol fermentation with immobilized yeast cells.** Andhra.

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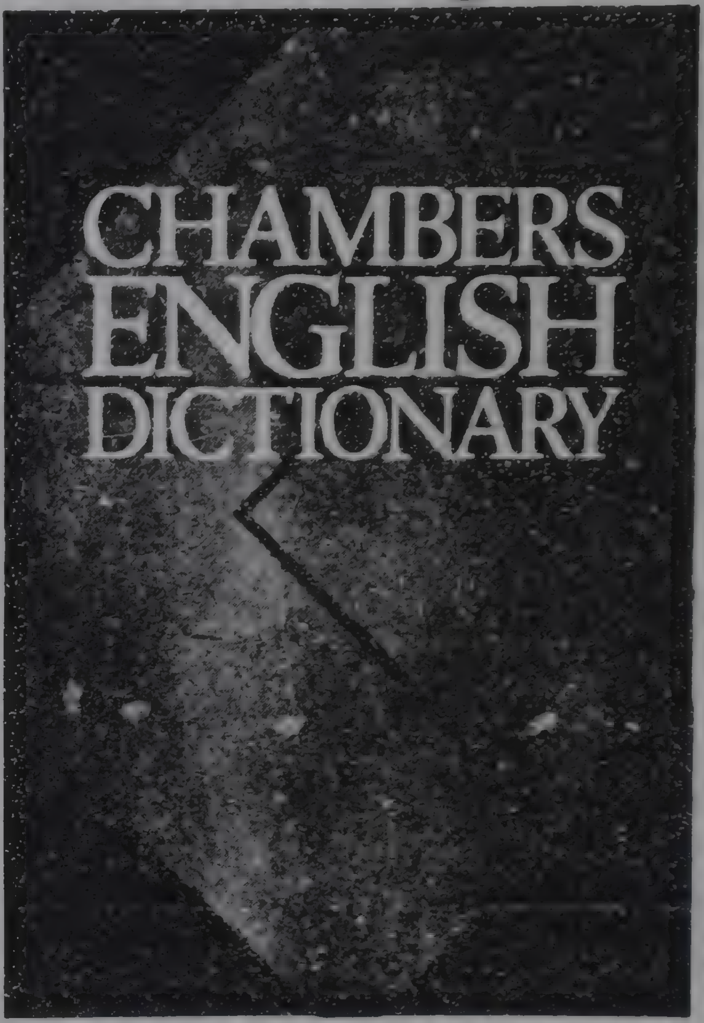

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Scale of Pay : Rs.1640-60-2600-EB-75-2900

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Post - 1 (Reserved for SC)

Scale of Pay : Rs. 1400-40-1800-EB-50-2300

Qualification & Experience : Diploma in Automobile/Mechanical Engineering with at least 3 years' experience in maintenance/repairs of vehicles. Desirable : Knowledge and experience of looking after pumps and air-conditioners.

Age limit : 30 years.

9. **ASSISTANT** Posts - 9 (SC-3, ST-6)

Scale of Pay : Rs. 1200-30-1560-EB-40-2040

Qualification & Experience : Essential : A Bachelor's Degree of a recognised University with three years' experience in secretarial/administrative work in University/Govt./autonomous organisation/Public or private sector undertaking.

Desirable : Knowledge of typewriting and ability to type own notes.

Age limit : 28 years.

(Posts available at Regional Centres Karnal, Shimla, Lucknow, Patna, Pune, Bangalore and Jaipur)

10. **STENOGRAPHERS** Posts - 22 (SC-14, ST-8)

Scale of Pay : Rs. 1200-30-1560-EB-40-2040

Qualification & Experience : Essential : Matriculation or equivalent with 80/30 wpm speed in shorthand and typewriting respectively and with two years' experience as Steno-typist/Stenographer in University/Govt./autonomous organisation/Public or private sector undertaking.

Desirable : i) A Bachelor's Degree of a recognised University with experience as Stenographer.

ii) Ability to do word processing on PCs/IBM-PC Compatible machines.

Age limit : 28 years.

(Posts available at Regional Centres at Patna, Pune, Karnal, Bhopal, Jaipur, Lucknow, Calcutta, Cochin and Shillong).

11. **PROOF READER GRADE-II**

Posts - 3 (SC-2, ST-1)

Scale of Pay : Rs. 1200-30-1560-EB-40-2040

Qualification & Experience : Essential : a) Bachelor's Degree of a recognised University. b) 2 years' experience in Proof Reading from a reputed publishing organisation or Govt./autonomous organisation. c) Knowledge of English/Hindi. Desirable : Additional knowledge of any regional language.

Age limit : 30 years.

12. **ASSTT. ELECTRICAL FITTERS/SUB-STATION ATTENDANTS**

Posts - 2 (SC-1, ST-1)

Scale of Pay : Rs. 1200-30-1560-EB-40-2040

Qualification & Experience : Essential : Matriculation or equivalent with National Trade Certificate (ITI) of two years duration in the trade of Electrician.

Desirable : Experience in sub-station duties.

Age limit : 30 years.

13. **JUNIOR ASSTT-CUM-TYPIST**

Posts - 24 (SC-4, ST-20)

Scale of Pay : Rs. 950-20-1150-EB-25-1500

Qualification & Experience : Essential : Matriculation or equivalent with two years' experience in a clerical post in a Govt./Semi-Govt./Public undertaking/reputed private company with a typing speed of 30 wpm in English. The typing speed in respect of any of the National language will be as prescribed by the Central Govt./State Government.

Desirable : A Bachelor's degree from a recognised university with typing speed of 30 wpm.

Age limit : 25 years.

(Posts available in Regional Centres at Patna, Pune, Karnal, Shimla, Shillong, Bhubaneshwar, Jaipur and Lucknow).

GENERAL CONDITIONS

i) The University reserves the right to : -

a) relax any of the requirements with reference to age and experience in exceptional cases and/or in the case of person already holding comparable position on a regular basis in a University/Research Institution.

b) consider names of suitable candidates who may not have applied, on the recommendations of the Selection Committee.

c) post the selected candidates either in the head-quarters at New Delhi or at any of its 16 Regional Centres located in different parts of the country.

d) not to fill up any of the vacancies advertised.

ii) The University will conduct a written test and skill test/trade test as the case may be at any place(s) through out the country at its discretion. Candidates found eligible/qualifying in the tests will be called for interview before the Selection Committee at New Delhi or at any of the Regional Centres of the IGNOU.

iii) Since applications received may be shortlisted merely possessing the prescribed qualifications and the requisite experience would not entitle a person to be called for a written/skill test and/or interview.

iv) No interim queries or correspondence regarding issue of call letters for test/interview or selection of candidates for a post will be entertained at any stage.

v) The age limits prescribed, is the age limit applicable to general candidates. Relaxation in age applicable to SC/ST candidates will be as per Govt. rules.

vi) Out-station SC/ST candidates called for test/interview will be paid single second class railway/bus fare to and fro the place of test/interview by the shortest route from their place of residence on production or rail/bus tickets or photocopy thereof.

vii) The selected candidates may be liable to be transferred to any of the University's offices in the country.

viii) Canvassing in any form will be viewed seriously and candidature of such person(s) will be summarily rejected.

HOW TO APPLY

Application forms can be obtained from the Recruitment Cell, Block-4, Room No. 18, Indira Gandhi National Open University, Maidan Garhi, New Delhi-110068 in person or on a written request by post which must be received in the University Office before 20.3.92. All such requests should be accompanied by a self-addressed envelope (size 13 x 28 cms) bearing postage stamps worth Rs. 2/-. REQUESTS FOR APPLICATION FORMS WHICH ARE NOT ACCOMPANIED BY A SELF-ADDRESSED STAMPED ENVELOPE OR ACCOMPANIED BY INADEQUATELY STAMPED ENVELOPE WILL NOT BE ENTERTAINED. Candidates applying for more than one post must send their applications in separate covers. Completed application form along with attested copies of certificates in support of qualification, experience, age and caste etc. should reach the Registrar at the above address on or before **10.4.92**. Applications received after the due date or incomplete in any respect and/or the case of those in Government/Semi-Government/University NOT RECEIVED THROUGH PROPER CHANNEL will not be considered at all. However, they may send advance copy of their application before the due date to be followed by application through proper channel later.

REGISTRAR

Advt. No. 5/Rectt/92

Jawaharlal Nehru University, New Delhi

Announcement for Admission – 1992-93

The University will hold Entrance Examination for admission to various programmes of study at the following 25 centres on May 20,21 and 22, 1992:

Ahmedabad, Bangalore, Baroda, Bhubaneshwar, Bombay, Calcutta, Chandigarh, Cochin, Danapur Cantt (Bihar), Dehradun, Delhi, Gauhati, Hyderabad, Indore, Jaipur, Jammu, Lucknow, Madras, Madurai, Patna, Pune , Ranchi, Shillong, Varanasi and Vijayawada. (The University reserves the right to change centre of examination without assigning any reasons).

SCHOOLS AND PROGRAMMES OF STUDY

I. SCHOOL OF INTERNATIONAL STUDIES

(I) **M.Phil./Ph.D.** in International Politics, Organisation, Disarmament & Political Geography; Diplomatic Studies, International Legal Studies, International Trade and Development; South Asian, Central Asian, Southeast Asian & Southwest Pacific Studies; Chinese, Japanese and Korean Studies; West Asian, North African and Sub-Saharan African Studies; American, Latin American & West European Studies and Soviet & East European Studies.

(ii) **M.A. In Politics (International Studies)**

II. SCHOOL OF LANGUAGES

(I) **M.Phil./Ph.D.** in French, German, Russian, Hindi, Linguistics & English including Semotics, Spanish and Urdu and Ph.D. in Japanese, Chinese, Persian and Modern Western Philosophy.

(ii) **M.A.** in English, Linguistics, Hindi, Urdu, Persian, Arabic, Chinese, Japanese, French, German, Russian and Spanish.

(iii) **B.A. (Honours)** in Persian, Modern Arabic, Chinese, Japanese, French, German, Russian and Spanish (with entry points both in 1st and 2nd year). Students successfully completing the 3-year B.A. (Hons) become eligible to seek registration to M.A. in the respective foreign language as at (ii) **above.**

III. SCHOOL OF SOCIAL SCIENCES

(i) **M.Phil./Ph.D.** pogramme is offered by following Centres which have their curricular and research work organised on inter-disciplinary basis with a focus on some major problems of study.

Centres : Economic Studies and Planning, Historical Studies, Political Studies, Regional Development (Geography, Economics, Population Studies), Social Systems, Educational Studies (Psychology, Sociology, Economics and History of Education), and Social Medicine & Community Health.

(ii) **Master of Community Health (MCH/Ph.D.):** Candidates holding MBBS with one-year experience after internship or Master's degree in Nursing with one year' experience in Community Health in Nursing.

(iii) **M.A.** in Economics, Geography, History, Political Science & Sociology.

IV. SCHOOL OF LIFE SCIENCES

(I) **M.Phil/Ph.D.** in areas of interdisciplinary research; Genetic Engineering, Molecular Biology and Genetics, Biochemistry, Plant and Animal Tissue Culture, Developmental Biology, Cell Biology, Immunobiology, Neurobiology, Microbiology, Radiation and Cancer Biology, Biophysics, Photobiology, Bioenergetics Membrane-Biology, etc.

(ii) **M.Sc. In Life Sciences:** Open to candidates from both Biological and Physical Sciences.

V. SCHOOL OF ENVIRONMENTAL SCIENCES

(I) **M.Phil/Ph.D.** in interdisciplinary areas of Environmental Sciences including Biology and allied fields, Chemistry, Geology and Physics.

(ii) **M.Sc. In Environmental Sciences:** An interdisciplinary course with Physical, Biological, Earth Sciences and Pollution Studies.

VI. SCHOOL OF COMPUTER & SYSTEMS SCIENCES

(I) **M.Phil./Ph.D. & M.Tech./Ph.D.** : The School offers academic programmes leading to the degrees in diverse aspects of Computer & Systems Sciences.

(ii) **Master of Computer Applications (MCA)** : 3-year programme.

VII. SCHOOL OF PHYSICAL SCIENCES

(I) **Ph.D.** in Physical Sciences research and teaching in border line areas of Physics & Chemistry, the emphasis being on topics of Chemical Physics, Condensed Matter, Physics, Non-equilibrium Statistical Mechanics, Stochastic Processes & Non-linear Dynamics, Experimental areas include Magnetism, Non-linear optics and Light Scattering.

(ii) **M.Sc. In Physics :** Open to candidates who have B.Sc. in Physics, Chemistry or Mathematics.

VIII. CENTRE FOR BIOTECHNOLOGY

Ph.D. Research Areas : Plant Molecular Biology; Protein Engineering; Genetic Engineering related to Nitrogen Fixation; Molecular Basis of Infectious Diseases; Molecular Immunology; Protein Stability, Conformation & Folding and Bioprocess Optimisation.

RESERVATION OF SEATS: 22.5% (15% for SC and 7.5% for ST) and 3% seats are reserved for SC, ST and Physically Handicapped candidates.

HOW TO APPLY

Application form together with detailed instructions including eligibility conditions can be had either personally on cash payment of Rs. 13/- per set or by post by sending crossed Indian Postal Order for Rs. 30/- payable to JAWAHARLAL NEHRU UNIVERSITY, NEW DELHI, for one set of form and postage along with a self- addressed unstamped envelope of 28 cms x 20 cms size to THE DEPUTY REGISTRAR (ADMISSIONS), JAWAHARLAL NEHRU UNIVERSITY, NEW DELHI-110067. A maximum of two additional forms @ Rs. 3/- each can be had with one Instruction Booklet. Money Orders are not accepted.

There being different forms and Instructions Booklet for different level of programmes i.e. (i) M.Phil./Ph.D., M.Tech./Ph.D. & M.C.H./Ph.D.; (ii) M.A./M.Sc./M.C.A.; and (iii) B.A. (Hons.) in Foreign Languages, candidates should clearly indicate in their request as well as on the top of the self- addressed envelope the name of the programme for which form and Instruction Booklet is required. A candidate can apply for more than one programme by filling up separate application form for each programme.

ISSUE OF FORMS : FEBRUARY 11 ONWARDS; & UP TO MARCH 31, 1992 (IN PERSON); AND MARCH 25, 1992 (THROUGH POST)

LAST DATE FOR RECEIVING COMPLETED FORMS: APRIL 6, 1992.

NOTE : 1. Candidates who are due to appear in the respective qualifying examination prescribed for eligibility for admission to a particular programme are also eligible to sit in the entrance examination as per conditions laid down in the Instruction Booklet.

2. Announcement for admission to Direct Ph.D. and Part-Time Programmes in Foreign Languages will be notified separately in May, 1992.

PUNJAB AGRICULTURAL UNIVERSITY
LUDHIANA

MASTER OF BUSINESS ADMINISTRATION

Applications are invited for admission to Master of Business Administration Programme for the academic year 1992-93.

ELIGIBILITY: Graduate/Postgraduate in Science/Engineering, Agriculture, Agricultural Engineering, Technology, Veterinary and Home Science with at least 60% marks (55% marks for scheduled castes/scheduled tribes) at graduation level.

APPLICATIONS: The Prospectus alongwith application form can be obtained from the Registrar by post by sending crossed Indian Postal Order (s) for Rs.20/- in favour of Comptroller, PAU, payable at PAU Post Office Ludhiana or from Registrar's Office against cash payment.

LAST DATE FOR RECEIPT OF APPLICATIONS : 8.4.1992.

REGISTRAR

NATIONAL SCHOOL OF DRAMA, NEW DELHI
THREE-YEAR DIPLOMA IN DRAMATIC ARTS(1992-95)
ADMISSION NOTICE

NATIONAL SCHOOL OF DRAMA, an autonomous institution fully financed by the Government of India, Department of Culture, invites applications for admission to Three-Year Diploma Course (full time & residential) in Dramatic Arts. The course starting from July, 1992, aims at development of a theatre personality by imparting training in acting, design and other disciplines related to theatre.

Medium of instruction : Hindi/English

ELIGIBILITY

Essential Qualifications

1. Graduation in any subject from a recognised university in India.
2. Participation in at least 10 productions.
3. Working knowledge of Hindi and English.

AGE LIMIT

Minimum: 18 Years (as on 30.06.1992)

Maximum: 30 Years (as on 01.07.1992)

Upper age limit is relaxable by five years for SC/ST candidates only.

RESERVATION FOR SC/ST CANDIDATES : Out of 20 seats, 4 seats are reserved for SC/ST candidates from Scheduled Castes/Tribes preferably from Castes/Tribes/Communities and families traditionally connected with the performing arts. If no suitable candidate is available for admission from these categories the seats will be offered to general suitable candidates.

SELECTION : The Experts Committee constituted by the School will assess the aptitude and talent of the candidates & its decision will be final. Any canvassing in this regard will be treated as a disqualification.

CENTRES : A preliminary test will be conducted at four centres i.e. Bombay, Bhubaneswar, Hyderabad and Delhi. The candidates qualifying in this test will have to attend a workshop of 3 to 5 days in school premises for their final selection for which they will be paid D.A., II Class Train/Bus fare from the place of their residence to Delhi and back by shortest route and accommodation on modest sharing basis.

FINANCIAL ASSISTANCE : All the selected students will be given monthly scholarship of Rs.650/- to meet their academic expenses.

HOW TO APPLY : For application form and prospectus, please write to Asstt. Registrar (Acad), National School of Drama, Bahawalpur House, Bhagwandas Road, New Delhi-110 001 along with a crossed Postal Order/Demand Draft of Rs.10/- (Rupees Ten only) in favour of the Director, National School of Drama, New Delhi. Application form and Prospectus will be available from the Reception of the Office from 3rd March, 1992.

Last Date for receipt of request for Application Form & Prospectus by post : **25.3.1992.**

Last Date for receipt of Application Forms duly filled-in by the candidate : **15.4.1992.**

NOTE: NO APPLICATION WILL BE ENTERTAINED AFTER THE AFORESAID DATE.

International Periodicals And Journals

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- *Stock-lists provided on request.*

Note: Enquiries also invited for Back-volumes of Research Periodicals/Journals.

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Engineering Computer Science Economics Management

CLASSIFIED ADVERTISEMENTS

OFFICE OF THE REGISTRAR
DIBRUGARH UNIVERSITY
DIBRUGARH
Establishment Branch
Advertisement No : 1/92

Applications are invited for the following posts:-

1. 1(One) post of Professor in Pharm. Sciences: E/Q/Spl.Master degree in any branch of Pharmacy after obtaining a basic degree in Pharmacy with 10(Ten) years teaching experience out of which 5(Five) years must be as Asstt.Professor/Reader at degree level.

   OR

   Master's degree in any branch of Pharmacy after obtaining 1st class basic degree in Pharmacy followed by a Doctorate degree or equivalent published work of high standard in appropriate branch of Pharmacy with 10(Ten) years experience in teaching at degree level/industry/research out of which atleast 5(Five) years must be as Asstt. Professor/Reader or equivalent.

2. 1(One) post of Profeesor in Petroleum Technology :- Spl. (Open) (a) An outstanding Scholar with Established reputation who has made significant contribution to knowledge in specialized field. (b) Master degree in Chemical Engineering, Reservior Engineering, Geology, Geophysics or Chemistry with a minimum of 10(Ten) years experience either in teaching or work experience in Industry in applied field. (c) Ph.D. Degree.

3. 1(One) post of Reader in Pharmaceutics : E.Q/Master's degree in Pharmaceutics after obtaining a 1st class basic degree in Pharmacy with 8 years experience as lecturer in degree level.

   OR

   Master's degree in Pharmacy after obtaining 1st class basic degree in Pharmacy followed by a Doctorate degree or equivalent published work of high standard in appropriate branch of Pharmacy with 5 years experience in teaching at degree level/Industry/Research.

4. 1(One) post of Reader i Pharm. Chemistry: E.Q/Spl. Master degree in Pharm. Chemistry after obtaining a 1st class basic degree in Pharmacy with 8(Eight) years experience as Lecturer in degree level or Master degree in Pharm. Chemistry after obtaining 1st class basic degree in Pharmacy followed by a doctorate degree or equivalent published work of high standard in appropriate branch of Pharmacy with 5(Five) years experience in teaching at degree level/Industry/Research.

   Selection through the prescribed Institutional Procedures.

5. 2(Two) posts of Reader in Commerce: 1(One) Spl. Marketing.

   1(One) Open.

6. 1 (One) post of Reader in Assamese: Spl. - Group "B" (Language) Assamese.

7. 1(One) post of Reader in Life Sciences: M.Sc. in Botany/Life Sciences.

   (Against lien vacancy for 2 years)

   Spl. Open, (Preferably Plant Ecology)

8. Lecturer in Assamese - 2 (Two) posts: (One post against lien vacancy) : Spl. M.A. in Assamese, (Language) Group "B".

   Preferably with teaching experience in Post Graduate Classes.

9. Lecturer in Economics - 1(One): Mathematical Economics and Econometrics as Special papers at Post-Graduate level and preferably with Economics (Major) Statistics and Marthematics at Degree level.

10. Lecturer in English - 1(One) Spl. American Literature.

11. Lecturer in Applied Geology-1(One) Spl. Master degree in Geophysics/Exploration Geophysics.

12. Lecturer in Sociology - 1 (One) Open.

13. Lecturer in Assamese - 1 (One) (Education): (i) M.A. in Assamese (ii) The candidate should have any one of the following subjects in B.A. level. Political Science, Economics, History, (iii) Candidates with B.T/B.Ed. degree will be preferred.

14. Lecturer in Anthropology-1 (One) Spl. Physical Anthropology.

15. Lecturer in Statistics - 1(One) Spl. Econometrics/Statistical Inference/Probability theory/multivate Analysis.

    Desirable:

    A candidate with knowledge in computer programming.

Scale of Pay

Professor: Rs. 4500-150-5700-200-7300/-p.m.
Reader: Rs. 3700-125-4950-150-5700/-p.m.
Lecturer: Rs. 2200-75-2800-100-4000/-p.m.

All posts carry usual allowances as admissible under the University rules in force from time to time and the incumbents will be eligible for contributory Provident Fund and Gratuity on confirmation as per rules of the University.

Educational Qualifications

Professor: (A) An eminent scholar with published work of high quality actively engaged in research, ten years experience of teaching and/or research experience or guiding research at doctoral level.

Or

(B) An outstanding scholar with established reputation who has made significant contributions to knowledge.

Reader: (A) Good academic record with a doctoral degree or equivalent published work. Evidence of being actively engaged in (i) Research, (ii) Innovation in Teaching Materials.

(B) At least five years experience of teaching and/or research provided that at least three years experience as Lecturer or in equivalent position.

Lecturer: (A) A doctorate degree or research work of an equally high standard.

and

(B) Consistently good academic record with 1st class or high 2nd class (In the seven point scale) Master degree in a relevant subject from an Indian University or an equivalent degree from a foreignUniversity. Having regard to the need for developing interdisciplinary programmes, the degree in (a) and (b) above may be in relevant subject.

Provided that if the Selection Committee is of the view that the research work of a candidate as evident either from his thesis or from his published work is of very high standard, it may relax any of the qualifications prescribed in (b) above for the post of Lecturer.

Provided further that if a candidate having a doctorate degree or equivalent research work is not available or is not considered suitable; a person possessing consistently by a good academic record (weightage being given to M.Phil or equivalent degree or research work of quality) may be appointed provided he has done research work for atleast two years or has practical experience in a research Laboratory/Organisation on the condition that he will have to obtain a Doctor's degree or give evidence or research work of equivalent high standard within eight years of his appointment as Lecturer failing which he will not be able to earn future increment until he fulfils these requirements.

Provided further that if a candidate has first class career (60% or above marks) all through from Matriculation upto the Master degree level, such a candidate can be duly considered by the Selection Committee for appointment as Lecturer by relaxing the qualifications for research experience degree.

9(Nine) copies of applications in plain papers giving full bio-data including (1) Name in full (in block letters), (2) Father's name, (3) Date of birth, (4) (a) Permanent address, (b) Present address, (5) Present occupation if any, (6) Present salary drawn if any and the salary expected, (7) Academic career in detail from Matriculation/upwards showing division/class, aggregate percentage of marks, School/College/University from which appeared, (Attested copies of marksheets, Certificates should be enclosed) (8) Detail of appointments held with designations, duration and nature of works and name of employers, (9) Research contributions with copies of reprints or research experiences supported by documentary evidence, (10) Name and address of 2(Two) refrees not related to the candidate together with an application fee of Rs.10/- (Rupees Ten) and Rs. 5/- (Rupees five) for the S.C. and S.T. candidates only by crossed I.P.O. drawn in favour of the REGISTRAR, DIBRUGARH UNIVERSITY, Dibrugarh should reach the undersigned on or before **2.4.92.**

The number of this advertisement and name of the post applied for must be referred to in the application. Persons already in employment should apply through proper channel or with a "No objection certificate" from the present employer.

All prints of the research papers published must be attached.

Application not in conformity with the above requirement will not be entertained.

Candidates will be required to appear before an interview if and when called for.

REGISTRAR

GUJARAT UNIVERSITY

AHMEDABAD-380 009

Applications are invited in the prescribed form available from the Registrar, Gujarat University, Ahmedabad-380009, so as to reach him on or before 25.3.1992 for the following posts in the various Post-Graduate Departments of the University.

S.No., Name of the post and No. of post

1. Professor of Education – One

   (This post is reserved for Scheduled Tribes candidates) (Second attempt)

2. Professor of Bio-Chemistry/Life Science – One
3. Professor of Textile Chemistry – One
4. Professor of Political Science – One
5. Reader in Hindi – One
6. Reader in Economics – Two

   (one post is reserved for Scheduled Tribes candidates) (Second attempt)

7. Reader in Psychology – One

   (This post is reserved for Scheduled Tribes candidates) (Third attempt)

8. Reader in Chemistry (Corrosion) – One
9. Reader in Labour Welfare – One

   (This post is reserved for Economically and Socially Backward class candidates as per Baxi Commission) (First attempt)

10. Reader in Zoology – Two

    (One post is of the specialization in Cell Biology and Endocrinology under D S A U G C scheme in Zoology)

11. Reader in Prakrit – One
12. Reader in Philosophy – One
13. Reader in History – One
14. Reader in Business Management – One

    (This post is reserved for Economically and Social Backward class candidates as per Baxi Commission) (First attempt)

15, Reader in Physics – One
16. Reader in Space Science – One
17. Reader in Academic Staff College – One

    (This post is under UGC Scheme for a period upto 31.3.93 but likely to be continued)

18. Reader in Computer Science – One
19. Reader in Developmental Communication – One
20. Reader in Textile Chemistry – One
21. Reader in Education – One
22. Reader in Library Science – One
23. Reader in Polymer Science – One
24. Lecturer in Academic Staff College – One

    (This post is under UGC Scheme for a period upto 31.3.93 but likely to be continued)

25. Lecturer in Chemistry – Four

    (i) One post is reserved for Scheduled Tribes candidates) (Second attempt)
    (ii) One post is for Organic Chemistry
    (iii) One post is for Corrosion.

26. Lecturer in Botany – Two

    (One post is reserved for scheduled castes candidates) (Second attempt)

27. Lecturer in English – Two

    (One post is reserved for Scheduled tribes candidates) (Second attempt)

28. Lecturer in Economics – One

    (This post is reserved for Economically and Socially backward class candidates as per Baxi Commission Report) (First attempt)

29. Lecturer in Developmental Communication – One

    (This post is reserved for Scheduled Tribes candidates) (First attempt)

30. Lecturer in Political Science – Two

    (One post is reserved for Economically and Socially Backward Class candidates as per Baxi Commission Report) (Third attempt)

31. Lecturer in Statistics – One
32. Teaching Research Associates in Business Management – Five

    (One post is reserved for Economically and Socially Backward Class candidates as per Baxi Commission Report) (First attempt)

33. Lecturer in Computer Science – One
34. Lecturer in Sociology – One
35. Lecturer in Language Laboratory (With Post-graduation in English/Hindi/Gujarati/Sanskrit – One
36. Lecturer in Labour Welfare – One
37. Lecturer in Mathematics – One
38. Lecturer in Zoology – Two
39. Lecturer in Physics – One
40. Lecturer in Microbiology – One
41. Lecturer in Urdu – One
42. Lecturer in Hindi – One

    (This post is reserved for Economically and Socially backward class candidates as per Baxi Commission) (First attempt)

43. Lecturer in Gujarati – One
44. Lecturer in Polymer Science – One

PAY SCALE

1. Professor : Rs.4500-150-5700-200-7300
2. Reader : Rs.3700-125-4950-150-5700
3. Lecturer : Rs.2200-75-2800-100-4000
4. Teaching Research Associates : Rs.2200-75-2800-100-4000

Those who have applied previously for posts at Sr. No.23 and 44 in response to earlier advertisement may not apply again.

A copy of the rules governing minimum qualifications can be obtained on request.

The above posts carry Dearness Allowance and other allowances as per rules of Gujarat University. The benefits of General Provident Fund, Gratuity and Pension will be admissible as per the rules of the University in force from time to time. The candidates selected for the above posts (except post at Sr. No.43) shall have to learn Gujarati language during the period of probation. The initial gross monthly emoluments on the minimum salary in the scale for the Professor, Reader, Lecturer & T.R.A. will be approximately Rs.7385/-, Rs.6385/-, Rs.3872/- & Rs.3872/- respectively.

Residential quarters may be provided on request subject to the availability.

The prescribed form of application can be had on payment of Rs.5/- payable in advance either in cash or by postal order. Money Order will not be accepted.

M.P. Jadia
OFFG. REGISTRAR

A.I.U. PUBLICATIONS

		Rs.
1.	Universities Handbook	1000.00
2.	Equivalence of Foreign Degrees	180.00
3.	Handbook of Engineering Education	In Progress
4.	Handbook of Medical Education-1990	50.00
5.	Handbook of Management Education-1989	30.00
6.	Handbook of Agricultural Education-1986	40.00
7.	Handbook of Distance Education	In Progress
8.	Scholarships for Study Abroad and at Home	10.00
9.	Directory of Distance Education Institutions – Part I: India	225.00
10.	Directory of Distance Education Insitutions – Part II : Pakistan & Srilanka	
11.	Association of Indian Universities-1925-75	50.00
12.	Association of Indian Universities-1925-85	100.00
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	(PB)	80.00
14.	Decentralisation of Higher Education System	100.00
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17.	Studies in Distance Education	20.00
18.	Directory of Women's Studies in India	120.00
19.	Universities and Research	45.00
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21.	State Funding of Universities	50.00
22.	Elite in the Making	40.00
23.	Economics of College Education – A Study of Hindu College, Delhi	25.00
24.	Educational Statistics at a Glance	75.00
25.	Education and Economic Development	23.00
26.	Report of the Task Force on Autonomous Colleges and Departments	60.00

BIBLIOGRAPHY OF DOCTORAL DISSERTATIONS

27.	Social Sciences	1857-1970	50.00
28.	Humanities		100.00
29.	Physical Sciences		125.00
30.	Biological Sciences		100.00
31.	Physical Sciences-1970-75		120.00
32.	Biological Sciences-1970-75		120.00
33.	Social Sciences & Humanities -1975-76		50.00
34.	Natural & Applied Sciences -1975-76		90.00
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Prof. A.L. Nagar, Pro-Vice-Chancellor, Delhi University, inaugurating the Management Development Programme. On his right are Prof. S. Neelamegham, Dean, Planning & Administrative Reforms and Mr. V.K. Rastogi, Dy. Director, HRD Centre. Mr. J.C. Kochhar, the then Registrar, is on his left.

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Editor:
SUTINDER SINGH

Towards a Metanoic Organisation for Indian Universities

In Search of Relevance and Excellence

Ajoy K. Ghose*

As we move towards the 21st century, the university system and its role in shaping the destiny of the nation has become a key issue of our times. While the dimensions of the university system have of late become almost gargantuan, its outreach in the development of economy, science and technology and for social transformation has been increasingly recognized. Currently, there are some 147 universities, 27 institutions which are deemed to be universities and 6,912 colleges with an estimate enrolment of over 4.5 million students in the formal system. The quality and relevance of the university system have therefore emerged as vital issues of concern and new strategies must be sought to encourage commitment to learning, freedom to innovate and in general to make the system more creative and effective. There are obvious lacuna in the contemporary situation and the decay in the university system has received wide attention. Some amount of soul-searching is necessary to take a balanced view of the performance of the universities, if only to stem the rot.

The setting appears ripe for transplanting the concept of a metanoic organisation through a fundamental change in the university environment. The word "metanoic" is derived from a Greek word meaning a "fundamental shift of mind" which applied to any organisation represents a major step forward in orgaisational innovation. The word describes essentially a reawakening of mind leading to the shaping of individual destiny. If the university has to play its rightful role in the development of a sustainable society, with responsibilities to the larger societal system of which it is a part, innovative orgnaisational change through a metanoic organisation is not only desirable but inescapable as well. The adoption of a metanoic organisation within the university system involves new perceptions and a changed contextual dimension vis-a-vis vision or purpose fulness of the system, of alignment around that vision and a focus on organisational design. However distant that may be, any university must have a vision which may range from the very mundane concept of preparing citizens for the future to that of being a centre of excellence. Inherent in all metanoic organisation is the aligment of people — of faculty, students and supporting staff — wedded to a vision, a shared vision as it were looking for "diamonds in the sky". This also entails a new context for freedom, responsibility and accountability. The key to the development of a metanoic organisation is the alignment of individuals displaying exceptional level of teamwork, which provides a synergy of purpose and vision. While there is no complete model of any such organisation and which must inevitably change over time, a university has to mould a group of individuals into a common body committed to a specific goal or vision for a new level of performance and direction. Such basic innovation in organisational design can encourage and stimulate faculty, students, employee initiative, acceptance of new responsibilities and a sense of belonging evolving new structures to realise that shared vision of excelsior.

In recent years, there have been many examples of suffcessful companies which are evolving towards the ideal of metanoic organisation. Adoption of such a concept to a university milieu will infuse new initiative and hopefully enable the university system to pursue audacious tasks in the field of academics and research. Besides the primary purpose of spreading knowledge, a university with a metanoic organisation will also demonstrate societal commitment, lead to more decentralised decision-making and utilise optimally the alignment of people, both personal and organisational.

(Contd. on page 25)

**Indian School of Mines, Dhanbad-826004.*

Cost and Production Functions for University Education

T.C. Sharma*

This paper attempts to investigate, identify and statistically establish the significance of the various variables that affect the cost and production of university education in India taking universities of Rajasthan State as a case of study.

I

The Concept of Educational Production

Educational institutions transform inputs into outputs. It is a fact that education can be thought of as production and educational institutions as producing units not totally dissimilar from manufacturing firms. However there are some important differences. Education producing units do not generally seek to maximise profits, indeed they do not as a rule sell their outputs directly in the market. Nevertheless, like firms they take a set of inputs (teachers' and students' time, books, the service flow from capital assets such as buildings) and combine them in such a way as to produce a set of outputs (cognitive gains, specialisation, new knowledge etc.). Clearly this transformation of inputs into outputs is not without cost, either in the sense of the monetary expenditure involved or more fundamentally, in terms of the alternative opportunities that must be sacrificed to enable this transformation to occur. The teachers' and students' time, the buildings that they use, in fact virtually all the inputs into educational production have alternative uses, the value of the next best of which is their true cost – opportunity cost.

The principles of educational costing are defined, below:

Concepts of Costs

a) Total Cost: This is really self-explanatory term, simply measuring the costs of all resources used at any particular scale of operation. In actual empirical studies total cost may refer to total current costs while in others capital cost may be included in the measurement of total cost. While capital costs pose some unique measurement problems in empirical work, they pose no particular conceptual problems at this stage, so the current capital distinction is ignored.

It is fairly obvious that total cost will depend on the level of output (scale of activity). A university department with only 20 students will have lower cost than one teaching 200 students in the same subject.

b) Average Costs: Average costs or unit costs as they are sometimes called are simply the total costs of producing a given level of output divided by the number of units of output produced. So in the example above, cost per pupil or per student is simply the total cost incurred by the university department divided by the number of pupils or students whereas it was fairly obvious that total costs increased with scale, it is not obvious whether average costs rise, fall or remain unaffected by the level of activity.

The cost per pupil in 100 students department could be higher, lower, or identical to the unit cost in the 50 pupil department. Where average cost falls/rises as estimated increases one talks of the existence of the economies of scale.

c) Marginal Cost: This is defined as the increase in total cost resulting from increasing enrolment by one unit. As with average cost it is not obvious how marginal cost varies with scale. Is the increase in total cost that results from enrolling an extra pupil greater, less, or no different in the 100 students department than it is in the 50 student department?

d) Opportunity Cost is a much wider concept and includes transfer cost which in the case of education would mean the earnings foregone by students by taking to education instead of going in for employment, or it consists of the loss of income that a student would have earned, had he gone in for employment instead of pursuing education. The earning potential of persons with different educational attainments being different, this cost will vary at different levels of education.

The Educational Production Function

Production function describes how resources (inputs) can be transformed into output. In education, the production function likewise is some mathematical relation describing how educational resources (inputs) can be transformed into educational outputs. To describe

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Economics of Education Unit, Research Cell, Association of Indian Universities, New Delhi-110 002.

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an educational production function, it is therefore necessary to define and measure the inputs and outputs.

INPUTS

1. *Student Time*

The major resource input into the production of a university output is student time. Because it is not a purchased input there is an unfortunate tendency on the part of many university teachers and administrators, and educational planners in general, to regard student time as a free good (even though students' foregone earnings are now widely accepted as being a major component of the real cost of higher education). The quality of student input also differs according to their ability, previously accumulated human capital, and aspirations etc.

2. *Academic Staff Time*

Apart from students themselves, academic staff constitute the largest single input into university production. Their annual inputs into the production of university output can be regarded as the application of their brute labour plus an annual flow of services from their accumulated human capital. The quantity and quality of embodied human capital will vary from individual to individual. Measuring academic staff inputs is average teacher salaries— although it has considerable appeal, it is lacking in many respects. An average teacher's salary is typically based on a teacher's experience and educational preparation; thus, the assumption that teachers' salaries are good proxy for teachers' input implies that salaries alone are a good measure of teacher productivity. It would be surprising if such an implication could be shown to be true, in the context of the fact that salaries take no account of teachers' talents, enthusiasm, resourcefulness, and dedication to the profession.

3. *Other Labour Inputs*

An ideally specified inputs structure would also require information on the use of time by non-academic staff (secretaries, administrators, technicians etc). We have no such information and non-academic staff inputs are therefore measured by annual expenditures. For one specific exercise these expenditures at the departmental level are allocated on the basis of total academic staff expenditure.

4. *Physical Capital*

Specification of capital inputs in physical terms is cumbersome and difficult because no common units exist to aggregate items of the university's capital stock such as land, building, furniture, laboratory equipment, computers, library books etc. Nevertheless, it would be interesting to have data on square footage of building space in different uses (lecture halls, staff offices, libraries, refectories etc.), acres of land for recreational purposes, number of library places, number of library books classified by subject etc. Many of these data exist but unfortunately we did not have access to them for this study.

5. *Background and Environmental Inputs*

There are undoubtedly many factors which influence the university production process which are not covered by the measure of quantity and quality of the students and institutional inputs specified above. We call them background and environmental factors. We have listed some of the factors likely to be of major importance :

a) *Individual Student Characteristics*

We have discussed the need to measure inputs of student time and ability plus acquired human capital at the time of entry to university. In addition, attitudes, motivation and other individual personality traits are likely to be important, as is the students' social class and parents' occupation.

b) *Student Study Environment*

Whether the student lives at home, in a university hall of residence, or in some form of privately rented accommodation, may materially affect his university performance. However, there may also be considerable variation within as well as between these residence categories — living at home, especially, can correspond to an enormous range of environmental conditions from those that are inimical to successful study to those which are highly conducive.

c) *Academic Staff Characteristics*

For academic staff the above discussion of inputs concentrated on the inputs of time to different activities, corrected for ability and acquired human capital (to the extent that these are reflected in salary differentials). But both teaching and research outputs of academic staff may also be affected by individual motivation, ambitions and tastes, by the working environment provided by their institutions and departments, and by the tastes, ambitions and abilities of their colleagues.

d) *Institutional Characteristics*

Apart from the differences conferred upon institutions by differences in size, and this mix of inputs and outputs, there are other differences which may directly or indirectly affect the production of teaching and research. Some of the factors are (i) the teaching technology adopted by the institution (large lectures or small groups meetings; degree of capital intensity of the teaching process; (ii) examination and marking practices; (iii) practices relating to the hiring, promotion and granting of tenure to academic staff; iv) administrative practices; (v) community and neighbourhood inputs; and (vi) the age of institution in so far as its reputation, ideology and physical attractiveness.

OUTPUT

A general view of the university would regard it as producing three main types of outputs:

i) Teaching output (transmission of knowledge).

ii) Research output (the extension of knowledge).

iii) General Social Services.

i) *Teaching Output*

The instructional activities of the university may be regarded as producing additions to the stock of human capital and current consumption benefit to students. The increments to the human capital stock yield flows of both pecuniary and non-pecuniary returns over time to the individual whose human capital has been augmented, and possibly additional benefits accruing to society at large, such as the alleged benefits of an educated electorate or civil services.

By far the most common method of measuring the annual teaching output of a university faculty or department is simply to count the number of students successfully qualifying their principal subject of study in the faculty or department during a given year.

ii) *Research Output*

One would like to measure research output in both physical and value terms, the problem of quality as well as quantity is again crucial, research has consumption as well as investment components, it generates externalities, etc.

In most general sense research is an activity which produces net additions to the stock of knowledge. As there are no units of knowledge and, as such, knowledge is not bought and sold on the market, one can measure or value this product only indirectly.

a) *Input-based measures of research output*

A common approach has been to measure output by the cost of inputs. This output can be measured by allocating all university expenditure to teaching and research on the basis of the proportion of time spent on each activity by academic staff. It is difficult to attempt separation of time devoted on research and teaching activities without first hand information.

b) *Publications-based measures of research output*

This study uses as a proxy for the annual research output of a university department the number of articles and books published by its members, using different weights for books and for articles published in journals regarded by academics as being of especially high quality.

It is obvious that there are other methods by which research findings are communicated which do not always result in publication — conferences, research seminars, unpublished papers and dissertations etc.

iii) *General Social Services*

This is something like a catch-all category for the less tangible activities of the university. It is intended to include the general socialisation function — the institution of desirable work habits, cooperative behaviour, respect for laws and institutions, and some would say docility and obedience. Also included in this category is the storage and preservation of existing knowledge.

Determinants of Unit Costs and Outputs

With a view to influence unit costs and output of education one is generally interested in finding out the determinants of unit costs and outputs. Generally in an educational system, one can visualise strong relationship between enrolments and unit costs and teaching staff and output of education (students successfully qualified). The likely determinants of costs and outputs are teacher-pupil ratio, average salary of the teacher, ratio of non-teaching cost to teaching cost per pupil etc. It is generally tested, sometimes, confirmed and sometimes rejected that unit costs of education are inversely influenced by the size of the enrolments, by the size of the teacher-pupil ratio, by the average salary of the teacher or by the ratio of non-teaching cost to teaching cost. Many a time regression equations are used for this purpose.

II

The Cost and Production Models

(A) *Aggregate cost functions:* Cost function is traditionally defined as the locus of least cost combination of inputs in producting given output. Therefore, cost data should be that relating to least cost combination of inputs. However, it is very difficult to estimate the least cost combination of inputs associated with any given level of output, because it calls for the use of relevant empirical production functions. For all practical purposes, therefore, cost function is a derived function (from production function). This however is problematic because the well known production externalities in education effectively preclude the fulfilment of optimality conditions often obtained for the neoclassical firm. This problem has led economists to undertake a direct specification of the cost function for investigation of any issues of interest in the sphere of cost of education. Following this logic, different forms of cost functions are specified to probe some vital questions relating to the efficiency from the cost-angle.

The variables specified in these cost and production models are defined as follows:

C = Per student recurring expenditure in the university.
S = Annual total enrolment in the university.
G = Total enrolment of undergraduate students in the university.
P = Total enrolment of postgraduate students in the university
TS = Total students in the faculty of science
TO = Total students in other faculties (except science faculty)
UGS = Undergraduate students in the science faculty
PS = Postgraduate students in the science faculty
UGO = Undergraduate students in other than science faculty
PO = Postgraduate students in other than science faculty
T = Total teaching staff in the university
CT = Total teaching expenditure
CNT = Total non-teaching expenditure
D = Degrees awarded in the faculty

The aggregate cost per student variable is related to other variables in the following manner:

Model C - I : C = (S)
Model C - II : C = (G, P)
Model C - III : C = (T, TS/TO)
Model C - IV : C = (S/T, CT/CNT, CT/T)

In case of these hypothesised cost relations, four functional forms have been tried — Linear, Quadratic, Semilogarthmic and Log-linear. The teaching and non-teaching cost functions have also been estimated simultaneously.

CT = f (S, G, P, TS, TO)
CNT = f (S, G, P, TS, TO)

(B) *The Production Functions:* The problem of identifying the output measurement is not unique to education. The difficulty with the concept of university output is that at any given time there is no complete agreement about the objective function of the universities in general. The university has no single objective of output. University must be regarded as multi-product producing unit.

It is generally accepted that University produces three main types of outputs.[1] (i) Institutional or educational outputs, (ii) Research outputs; and (iii) General social services. For reasons of empirical convenience economists concentrate on the first two categories of outputs: teaching and research. As Astin[2] has noted, the level of educational attainment as an educational output measure is "a behavioural manifestation of cognitive changes"[3] taking place in the students. The present study also considers success index in the form of total number of degrees awarded by the university as its output. Another consideration for the choice of total degrees awarded as an output is that it is broad enough to reflect the higher educational goals and concerns of students, administrators, teachers and government in our existing pattern of society. Nevertheless, it should be pointed out that this index of educational output does suffer from the limitations arising from the peculiarities of educational output such as aggregation — virtually no elasticity of substitution between the different educational inputs — and the output of human capital is by the human capital itself. This of course means that extreme care must be exercised in the interpretation of results of educational production functions. The variation in output variable has been attempted to be explained by the variables as per the following models:

Model P - I : P = f (T,C,S/T)
Model P - II : P = f (T, CNT, S/T)

Two functional forms have been estimated; linear and log linear. Strictly speaking, either of the cost or the production functions needs to be estimated.[4] Since it is difficult to ascertain the exogenous or endogenous character of the inputs and outputs, the independence between the explanatory variable and disturbance term cannot be established. It is, therefore, desirable to estimate both the functions to acquire better interpretations.

III

The Data

The aggregate cost and production functions are estimated for the three universities of Rajasthan State of India. The data on the variables for the estimation of the models were time series compiled from the budgets of the three universities from 1970-71 to 1981-82.

Estimation and Results

Since the cost and production functions are assumed as separate equations in the models specified and that stochastic disturbance term in each hypothesised model is independently and normally distributed with zero mean and constant variance, method of ordinary least squares is the estimating technique in each case.

Table C-I to C-IV present unit aggregate cost functions and Tables P-I to P-II describe the results of aggregate production functions. Interpretation of the results is given while considering each function and its functional form separately in case of each university.

Cost Functions

(i) In Tables marked C-I – To investigate and ascertain relation between cost and total enrolment of the University, four functional forms are tried and estimated. Of those four forms, quadratic and log-linear seem to explain highest variations in the unit cost of the three universities. The values of coefficient of (S) also turn out to be statistically significant at 5 percent level in these two forms of models.

Quadratic function indicates U-shaped relation between unit cost and size of the University. Thus, such type of function with negative sign for the explanatory variable (S) and positive sign for the squared explanatory variable (S^2) should be expected. This seems to happen only in case of University of Rajasthan. The parabolic average cost curve, therefore, best explains its appropriateness for the data for average cost and the enrolment pertaining to this University.

Elasticity of unit cost could be another indicator of returns to scale of operations. For, if the elasticity is less than one increasing returns to scale operate. If elasticity is equal to one or greater than one, constant or decreasing returns to scale are said to operate. With this view, scale of operations are identified with the help of estimates of cost elasticity via estimation of log-linear forms of cost functions. Since the log coefficient of enrolment in log-linear function is negative, once again the economies of scale are confirmed in case of University of Rajasthan. The log coefficient is positive in case of other two universities which do not confirm the existence of scale economies in the universities.

(ii) Tables marked C-II: It would be interesting to know if there is any economy in the joint production in the form of undergraduate and postgraduate students in the universities. With this in view, linear quadratic and log-linear unit cost functions are also tried relating to undergraduate and postgraduate students enrolled in the universities. The linear functional form indicates the implicit assumption of independency between the marginal cost of the undergraduate and postgraduate classes. This in turn implies lack of jointness in production. However, a considerable amount of fixed costs and other recurring cost items can be served in joint production. On such logic there is definite advantage in joint production of undergraduate and postgraduate students in the universities.

In case of University of Rajasthan, the linear, quadratic and semi-log functions indicate that expansion of enrolment in undergraduate class is more economical than in the case of postgraduate students. The log-linear function also gives negative constant elasticity for the undergraduate course confirming definite advantage in the joint production.

The same is also indicated by teaching and non-teaching unit cost functions. The University of Rajasthan seems to save on the front of teaching cost with rise in enrolment of undergraduates. Non-teaching cost nevertheless increases more with the increase in graduate enrolment.

These joint production functions are ill-fitted in case of University of Jodhpur; while except for quadratic functional form, other functions do not given clear indication of joint production in the Sukhadia University. However, teaching and non-teaching cost curves provide a clear indication of definite advantage in increasing the enrolment in undergraduate classes of these two universities.

(iii) Tables marked C-III: In order to examine the other question of cost-effectiveness with respect to various internal inputs simultaneously, enrolment has been specified along with two other variables; ratio of science to other than science students enrolled in all other faculties and academic staff in the cost functions. In general, the sign of these three regression coefficients cannot be determined *apriori*. To obtain the relative partial elasticity coefficients and also capture the essence of the additive and multiplicative nature of cost variables, both linear and log-linear forms have been fitted.

The estimates of these two functions in Tables C-III of all the universities show that the number of academic staff has a cost increasing effect. While 'Science to other students' ratio has cost decreasing effect, the same trend is reflected in the partial elasticity of teaching staff with respect to per student cost which is positive while that of 'ratio' is negative. The positive association of teaching staff with cost is not surprising since as already observed, a substantial percentage of the recurring expenditure of the universities is on teaching staff. Also, as could be seen from the teaching and non-teaching cost function it costs more to the universities in terms of teaching and non-teaching staff if enrolment enhances in the faculties other than science.

The coefficient of 'Science to other students' ratio is negatively significant in the cost functions of all the universities. This implies that cost decreases with the increase in this ratio, that is to say that expansion of enrolment in science classes is more economical than in the classes of other faculties. This is an indication of economies of scale in the faculty of science courses of the universities.

(iv) Tables marked C-IV: These cost functions investigate the significance of student teacher ratio (S/T), average salary of the teacher per year (CT/T) and, ratio of non-teaching cost to teaching cost (CT/CNT). Two forms of functions are tried here: Linear and log-linear. Surprisingly R^{-2} turns out to be extremely well in the linear as well as log-linear models fitted for the three universities.

(a) Coefficient of student-teacher ratio is significant with negative coefficient value thereby indicating that further rise in ratio decreases the per unit cost of education in the universities.

(b) Coefficient of average teaching cost is statistically significant with positive coefficient as expected. Per unit cost, therefore, shows increasing tendency with the increase in the average teaching expenditure in the universities.

(c) Negativity of the coefficient of ratio of non-teaching cost to teaching cost in the cost models establishes the fact that further rise in the ratio increases the per student cost of education in all the universities. This surely then makes out a case for restricting the non-teaching staff cost in the universities in order to control the institutional cost of education.

Production Function

(i) Tables marked P-I state the terminal human capital stock (total degrees awarded in the universities) is a linear function of academic staff, student-teacher ratio and per student expenditure by the University. It is necessary to specify the same relationship by using a multiplicative (log) function not only to draw attention to the consideration that in educational production process the inputs are more or less joint, but also to enable us to derive directly the partial elasticities of the inputs with respect to output. In the specified production function, the impact of quality and quantity of the teacher on University output hardly needs elaboration. The teacher is considered a crucial input for the student's performance; consequently its coefficient is expected to be positive. Expenditure per student incurred by the university has been introduced as a quality index in the model, because it seems reasonable to expect such expenditure as essential for meeting the basic needs of the universities. This permits to test the hypothesis that cognitive performance in the universities is a positive function of this expenditure so that, its coefficient is expected to be positive.

Student-teacher ratio variable stands proxy for size of class and hence acts as a quality index in the production function. The sign of this variable cannot be predicted on *apriori* basis. With rise in this ratio, one would expect negative sign indicating a fall in teachers' efficiency. A fall in the ratio will imply positive sign, indicating a rise in teachers productivity. It would, therefore, appear that sign of the coefficient of this ratio depends on the existence or non-existence of excess (unused) capacity in the university. The results obtained for these production functions (P-I) for the three universities may be interpreted as follows :

(a) Consistent with *apriori* assumption, teaching staff is positively related to the dependent production variable of the universities. The strength of this relationship may be inferred through the partial elasticities, though different in value, are positive for all the universities. This then establishes the fact that teachers are the crucial inputs in the scholastic performance of the students.

(b) The significance of the cost variable is not definite, it exhibits unstable signs. Such an unstable behaviour can be attributed to the problems of aggregation and various assumptions associated with the variable.

However in case of University of Rajasthan, the variable seems to be positively significant in both forms of the production function. One might, therefore, infer from this that expenditure per student is being used efficiently in achieving higher educational objective. But this inference must be regarded as highly tentative because of the aggregation problem associated with this variable. However, the question needs greater investigation in other two universities.

(c) Student-teacher ratio is positively related to the production implying that there is still room to increase teachers' productivity. The inelastic partial elasticity coefficient of the variable is indicative of the fact that the student-teacher ratio is too low for efficient utilisation of teachers' capacity in University of Rajasthan;

while in universities of Jodhpur and Sukhadia teachers' productivity seem to have been fully utilised.

(ii) In Tables marked P-II, Linear and log-linear functions are fitted with teaching staff, student-teacher ratio and non-teaching cost variables. Both functions turn out to be good fit. As in case of earlier production functions, coefficient of student-teacher ratio has remained positively significant in the present functions also.

Between the non-teaching cost and total academic staff on the pay roll of the universities, the former has shown a significant positive impact on the production of University of Rajasthan while it is the latter (teaching staff) which appears to be crucial inputs in the production of the University of Jodhpur. In case of Sukhadia University, the variable on teaching staff assumes abnormal sign while non-teaching cost turns out to be positive and significant in the production function.

IV

Summary and Policy Implications

Universities can be regarded as multi-product producing units and, as such, knowledge of technical relations between their inputs and outputs is of peramount importance for evaluating efficiency in various aspects of their working. This has been the prime object of this paper. The relationship between costs, inputs and outputs were analysed through cost and production models using econometric techniques.

Although cost and production functions of economics textbooks define the maximum outputs achievable with given sets of inputs or the minimum costs of producing given outputs, our actual estimated functions cannot be given this 'frontier' interpretation. Due to limitations and errors of various kinds (such as definition, aggregation problem, and omission of certain variables due to lack of data), the estimated cost and production models reflect only some average, not maximum, level of efficiency.

The educational cost and production functions for university education in Rajasthan has been specified using a set of various inputs with certain amount of theoretical logic.

The results of the OLS (Ordinary Least Square) estimation in both arithmetic and logarithmic scales have shown that the input set considered has explained a substantial part of the variable in the cost and production of the universities.

In particular it is found that :

(i) teachers are crucial inputs in the scholastic performance and that cost of teaching staff is also a major contributor in total per unit cost of university education,

(ii) increased class size is productivity enhancing and non-teaching expenditure is cost enhancing in the universities,

(iii) cost functions and elasticity coefficients have revealed the existence of substantial economies of scale with respect to enrolment including 'science to other students'ratio.

Following policy implications can be drawn on the basis of the above findings :

1. Increased university inputs, specially teaching staff would significantly improve the quantity and quality of higher education in Rajasthan.

2. The overall efficiency in the operation of universities supports the need to increase enrolment specially in the science courses. This would also conform with the current policy of increasing and improving the technical manpower for the twenty first century.

3. With the indication of economies of scale in the universities, it, therefore, appears inadvisable on economic grounds to develope additional university campuses in the State. But this implication, as already emphasised, should be treated with extreme care remembering that output of the universities (as defined here) suffer from several limitations; of which one being the quality.

4. There is a critical need to undertake a detailed study of the cost effectiveness of various expenditures incurred by each university in Rajasthan separately. Such a micro approach can generate precise information on how to minimise financial wastes on education and will also help in educational planning of the State.

References

1. For full and detailed description refer, Donald Verry and Bledin Davies (1979): "University Costs and Outputs" **Studies on Education**, Vol.6., Elsevier, Amsterdam.

2. Astin, Alexander, W.(1973): "Measurement and Determinants of Outputs of Higher Education", in **Does College Matter?** ed. by Sein C. Solomon and Paul S. Taubman, New York; Academic Press.

3. Such changes are reflected in post-school or college learning differentials between successful graduates and unsuccessful ones.

4. Every Stochastic model needs to be specified in terms of exogenous and endogenous variables. Exogenous variables are those whose values are independent of the disturbance term incorporated in the model. A model is not fully specified until the variables assumed to be exogenous in the above sense have been identified. Ordinary least squares method of estimation will give rise to unbiased estimates if and only if the explanatory variables (exogenously determined) are independent of the disturbance term of the model. This requirement generally means that one must estimate either the production function or the cost function. Both cannot fulfil the condition of independence of the explanatory variables and the disturbance term.

Table – C.I
University of Rajasthan

Models	*Constant*	*Regression Coefficient* S	S^2	R^{-2}
Dependent Variable:C				
Linear	11361.25*	.548*	–	.441
	(4.004)	(3.107)		
Quadratic	21326.3*	-2.494*	.00008*	.959
	(6.485)	(-13.925)	(11.305)	
Semi-Log	6174.339	-.00007*	–	.271
	(.008)	(-2.260)	–	
Log-Linear	80796070.0	-.866*	–	.645
	(.028)	(-4.577)		
Dependent Variable:CT				
Linear	-384623.0*	865.885*	–	.868
	(-2.5387)	(8.593)		
Dependent Variable:CNT				
Linear	-4807360.0	1519.672*	–	.800
	(-1.302)	(6.718)		

Figures in the parentheses are the t-values of the co-efficient.
**Significant at 5 percent level.*

Table – C.I
University of Jodhpur

Models	*Constant Terms*	*Regression Coefficient* S	S^2	R^{-2}
Dependent Variable:C				
Linear	-152.25	.192*	- .356	
	(-.222)	(2.662)		
Quadratic	-12532.08	2.820*	-.00014*	.537
	(-1.003)	(2.375)	(-2.216)	
Semi-Log	6.102	.00014*	–	.352
	(.065)	(2.640)		
Log-Linear	76.238	1.341*	–	.389
	(.053)	(2.831)		
*Dependent Variable:*CT				
Linear	-9971126.0*	1839.069*	–	.798
	(-3.809)	(6.674)		
Dependent Variable: CNT				
Linear	-6772733.0	1611.057*	–	.583
	(-1.791)	(4.047)		

Figures in the parantheses are the t-values of the co-efficient
**Significant at 5 percent level.*

Table – C.I
Sukhadia University

Models	Constant Term	Regression Coefficient		R^{-2}
		S	S^2	
*Dependent Variable:*C				
Linear	-630.17	.995*	–	.701
	(-.758)	(5.45)		
Quadratic	-5261.0	3.003*	-.002	.709
	(-.378)	(1.885)	(-.727)	
Semi-Log	7.088	.0002*	–	.698
	(.058)	(5.149)		
Log-Linear	-1.774	1.191*	–	.707
	(-0.015)	(5.281)	–	
Dependent Variable: CT				
Linear	-7622222.0*	2977.282	–	.891
	(5.364)	(9.546)		
Dependent Variable: CNT				
Linear	-136729280.0*	5692.136*	–	.900
	(5.298)	(10.049)		

Figures in the parentheses are the t- values of the co-efficient
**Significant at 5 percent level.*

Table – C.II
University of Rajasthan

Models	Constant Term	Regression coefficient				R^{-2}
		G	P	G^2	P^2	
*Dependent Variable:*C	14402.83*	-2.988*	2.007*	–	–	.754
Linear	(1.845)	(-4.239)	(2.744)			
Quadratic	17804.625	-5.918*	2.624*	.00034*	-.00018*	.991
	(1.2156)	(-5.804)	(1.815)	(6.434)	(-2.037)	
Semi-Log	10347.469	-.0005*	.0004*	–	–	.610
	(0.0145)	(-3.451)	(2.456)			
Log-Linear	111890.38	-1.865*	1.446	–	–	.888
	(.077)	(-4.961)	(3.232)			
*Dependent Variable:*CT	-1900698.0	-211.722	1911.832*	–	–	.882
	(-.294)	(-.362)	(3.154)			
Dependent Variable: CNT						
Linear	-3136736.0	943.636	1999.351	–	–	.775
	(-.192)	(.641)	(1.309)			

Figures in the parentheses are the t-values of the co-efficient
**Significant at 5 percent level.*

Table – C.II
University of Jodhpur

Models	Constant Term	Regression Coefficient				R^{-2}
		G	P	G^2	P^2	
*Dependent Variable:*C	-153.454	.1853	.232*		–	.285
Linear	(-.142)	(1.706)	(5.16)			
Quadratic	-17243.059	3.178*	7.677	-.0019*	-.00025	.405
	(.858)	(2.048)	(.849)	(-1.934)	(-1.799)	

Semi-Log	6.0998	.0013	.00019	—	—	.282
	(.062)	(1.635)	(.594)			
Log-Linear	1.801	1.052	.270	—	—	0.314
	(-.042)	(1.764)	(.616)			
Dependent Variable:CT						
Linear	-9949398.0*	1964.789	1120.582	—	—	.780
	(-2.429)	(4.786)	(.660)			
Dependent Variable: CNT						
Linear	-6754512.0	1715.027*	1016.695	—	—	.540
	(-1.134)	(2.873)	(.411)			

Figures in the parentheses are the t -values of the relevant co- efficient
**Significant at 5 percent level.*

Table – C.II

Sukhadia University

Models	*Constant*		*Regression Coefficient*			R^{-2}
	Term	*G*	*P*	*G*	*P*	
Dependent Variable:C						
Linear	-523.132	.683*	1.589*	—	—	.734
	(-.405)	(2.162)	(2.783)			
Quadratic	-1878.628	2.709	-1.571	-.0002	.001	.676
	(-.099)	(-.278)	(-.414)	(.570)	(.516)	
Semi-Log	7.117	.0002*	.0004*	—	—	.709
	(.061)	(1.994)	(2.665)			
Log-Linear	-.490	.612*	.530*	—	—	.696
	(.004)	(1.988)	(2.386)			
Dependent Variable: CT						
Linear	-785674.0*	2873.238*	3208.695*	—	—	.879
	(-3.203)	(4.950)	(2.8807)			
Dependent Variable:CNT						
Linear	-13550176.0*	4749.933*	7786.625*	—	—	.904
	(-3.318)	(4.817)	(4.115)			

Figures in the parentheses are the t -values of the relevant co-efficients.
**Significant at 5 percent level.*

Table-C.III

University of Rajasthan

Models	*Constant*		*Regression Coefficient*				R^{-2}
	Term	*TS*	*TO*	*TS/TO*	*S*	*T*	
Dependent Variable:C							
Linear	2450.796	—	—	−7125.0	-.095	3.639*	.995
	(.708)			(-1.352)	(-.882)	(2.511)	
Log-Linear	-1.501	—	—	-.089	.207	1.060*	.963
	(-.020)			(-.243)	(.339)	(7.999)	
Dependent Variable:CT							
Linear	-3582278	235.55	945.292*	—	—	—	.901
	(-0.8834)	(.182)	(5.427)				
Dependent Variable:CNT							
Linear	2540608.0	54.394	1591.887*	—	—	—	.788
	(-.236)	(.016)	(3.434)				

Figures in parentheses are the t-values of the co-efficient
**Significant at 5 percent level.*

Table-C.III

University of Jodhpur

Models	*Constant Term*	*Regression Coefficient*					R^{-2}
		TS	*TO*	*TS/TO*	*S*	*T*	
Dependent Variable:C							
Linear	917.983	–	–	-414.766	-.126	7.285*	.682
	(-.584)			(-.353)	(-1.173)	(3.313)	
Log-Linear	2.940	–	–	-.0203	-.675	2.627*	.680
	(-.044)			(-.139)	(-.940)	(3.275)	
Dependent Variable:CT							
Linear	-10028822.0*	1321.910	1993.040	–	–	–	.844
	(-4.018)	(1.603)	(7.584)				
Dependent Variable:CNT							
Linear	-3311398.0	-93.105	1580.779*	–	–	–	.570
	(-.794)	(.068)	(3.602)				

Figures in the parentheses are the t-values of the co-efficient
**Significant at 5 percent level.*

Table-C.III

Sukhadia University

Models	*Constant Term*	*Regression Coefficient*					R^{-2}
		TS	*TO*	*TS/TO*	*S*	*T*	
Dependant Variable:C							
Linear	3835.703*	–	–	-4670.796*	-.527	8.184*	.927
	(2.466)			(-2.906)	(-1.796)	(5.191)	
Log Linear	6.577	–	–	-.255*	-.520	.937*	.913
	(.110)			(2.347)	(-1.440)	(4.813)	
Dependent Variable:CT							
Linear	-8229087.0*	2126.113*	2854.714*	–	–	–	.885
	(-4.019)	(2.425)	(7.785)				
Dependent Variable:CNT							
Linear	-12124112.0*	2759.656	60005.070*	–	–	–	.990
	(-3.347)	(.917)	(9.257)				

Figures in the parentheses are the t-values of the co-efficient.
**Significant at 5 percent level.*

Table-C.IV

University of Rajasthan

Models	*Constant Term*	*Regression Coefficient*			R^{-2}
		S/T	*CT/T*	*CT/CNT*	
Dependent Variable:C	2809.24	-319.905	.151	-10110.598*	.896
Linear	(.515)	(-1.757)	(.874)	(-3.325)	
Log Linear	1001.214	-1.666	.653	-.402	.867
	(0.41)	(-1.523)	(1.205)	(-1.028)	

Figures in parentheses are the t-values of the co-efficient
**Significant at 5 percent level.*

Table-C.IV
University of Jodhpur

Models	*Constant Term*	*Regression Coefficient*			R^{-2}
		S/T	*CT/T*	*CT/CNT*	
Dependent Variable:C					
Linear	2608.108*	-91.146*	.115*	-998.165*	.949
	(6.009)	(-4.073)	(14.232)	(-6.577)	
Log-Linear	.582	-.983	1.007*	-.578*	.977
	(.028)	(-5.306)	(21.270)	(-8.609)	

Figures in the parentheses are the t-values of the co-efficient
**Significant at 5 percent level.*

Table-C.IV
Sukhadia University

Models	*Constant Term*	*Regression Coefficient*			R^{-2}
		S/T	*CT/T*	*CT/CNT*	
Dependent Variable:C					
Linear	6027.570*	-358.778*	.300*	-4690.273*	.970
	(14.666)	(-17.256)	(14.127)	(10.702)	
Log-Linear	.575	-.994*	1.003*	-.690*	.980
	(.133)	(-32.370)	(25.215)	(23.673)	

Figures in the parentheses are the t-values of the co-efficient
**Significant at 5 percent level.*

Table-P.I
University of Rajasthan

Models	*Constant Term*	*Regression Coefficient*			R^{-2}
		T	*C*	*S/T*	
Dependent Variable:D					
Linear	3.770	1.999*	.830*	112.542*	.935
	(.340)	(2.634)	(3.115)	(7.012)	
Log-Linear	1.537	.685*	.206	.593*	.930
	(.006)	(2.730)	(1.307)	(7.028)	

Figures in the parentheses are the t-values of the co-efficient.
**Significant at 5 percent level.*

Table-P.I
University of Jodhpur

Models	*Constant Term*	*Regression Coefficient*			R^{-2}
		T	*C*	*S/T*	
Dependent Variable:D					
Linear	-6480.851*	14.645*	-.776*	141.123*	.886
	(-3.444)	(5.960)	(-1.965)	(2.111)	

Log-Linear	2552.244	2.936*	-.440	1.0168*	.886
	(-.154)	(5.393)	(-1.685)	(2.083)	

Figures in the parantheses are the t-values of the co-efficient
**Significant at 5 percent level.*

Table-P.I

Sukhadia University

Models	*Constant Term*	*Regression Coefficient*			*R-2*
		T	*C*	*S/T*	
*Dependent Variable:*D					
Linear	-978.861	.338	.288*	77.881	.670
	(-1.054)	(.334)	(2.048)	(1.318)	
Log-Linear	-5.314	.479	.839	1.058*	.717
	(-.169)	(1.705)	(1.774)	(1.825)	

Figures in the parentheses are the t-values of relevant co- efficients.
**Significant at 5 percent level.*

Table-P.II

University of Rajasthan

Models	*Constant Term*	*Regression Coefficient*			R^{-2}
		T	*S/T*	*CNT*	
*Dependent Variable:*D					
Linear	589.81689	.36379	90.51204*	.000046*	.954
	(0.4673)	(0.1525)	(8.6892)	(3.4749)	
Log-Linear	1.19756	.021118	.61054*	.20462*	.934
	(1.3457)	(.04366)	(4.4594)	(1.9839)	

Figures in the parentheses are the t-values of the co-efficient
**Significant at 5 per cent level.*

Table-P.II

University of Jodhpur

Models	*Constant Term*	*Regression Coefficient*			R^{-2}
		T	*S/T*	*CNT*	
*Dependent Variable:*D					
Linear	-8038.762*	14.6034*	211.25186*	-0.000113*	.887
	(-5.3534)	(6.11403)	(3.37696)	(2.0348)	
Long-Linear	-4.35364*	2.91048*	1.38013*	-2.27667*	.876
	(4.7816)	(5.7485)	(3.0541)	(-1.80873)	

Figures in the parentheses are the t-values of the co-efficient
**Significant at 5 percent level.*

Table-P.II

Sukhadia University

Models	*Constant Term*	*Regression Coefficient*			R^{-2}
		T	*S/T*	*CNT*	
*Dependent Variable:*D					
Linear	784.5087*	-1.80195*	0.018594	0.000919*	.829
	(6.5979)	(2.12185)	(1.6751)	(3.8445)	
Log-Linear	-1.86532	-.325188	0.152728	.79384*	.802
	(-1.5668)	(-0.59708)	(.27563)	(2.8449)	

Figures in the parentheses are the t-values of the co-efficient
**Significant at 5 percent level.*

The Knowledge Society

Prof V. C. Kulandai Swamy, Vice-Chancellor, Indira Gandhi National Open University, delivered the Convocation Address at the eighth convocation of the Bharathidasan University, Tiruchirapalli. In a penetrating analysis of the state of higher education in the country in general and the state of tertiary education in Tamil Nadu in particular, he observed, "History will record as the most significant development of the twentieth century, not the inventions in nuclear science; not the development of the versatile tool—the computer; nor even the spectacular adventure in space or advances in biological sciences; but the emergence of knowledge as the most dominant factor in human society". And added, "The rule is now absolute : a Society or a Nation that fails to recognise the power of knowledge and value those who are well endowed with the capacity to create and apply knowledge is doomed". Excerpts

The form as well as the content, the role as well as the need of education has gone through tremendous changes during the last 200 years and particularly in the second half of this century. In keeping with this change, the method of teaching and learning, which started with the "Gurukulam" system of the past, moved on to the "classroom system" of the present and has advanced further to what we call the "Distance Education System". Education which was just an ornament and an embellishment, with no economic significance in the agricultural civilization, became a tool for development in the industrial era and a resource by itself in the post-industrial society of today. The changes have been rapid and momentous in the second half of this century. History will record as the most significant development of the twentieth century, not the inventions in nuclear science; not the development of the versatile tool—the computer; nor even the spectacular adventure in space or advances in biological sciences; but the emergence of knowledge as the most dominant factor in human society. It has brought education in all its levels—primary, secondary and tertiary—to centre stage.

It is a painful fact that the world stands divided today, into two major camps; not in terms of political ideologies, or economic theories as we tend to think. We have two distinct groups: the advanced countries and the developing countries. The advanced nations account for about 23% of the world population; but have access to nearly 80% of the resources consumed. The developing nations, with 77% of the population have access to 20% of the resources. It is not the religion followed ; the language spoken ; the land area or the natural resources, the political set up or the economic organisation that is mainly responsible for this situation. The advanced countries happen to be what they are because of their mastery over science and technology; ability to create new knowledge and capacity to use the knowledge so created for the development of the nation.

We are in a knowledge society today and education holds the key to progress. If I am to put it in a simple language, we need :

- higher education to master and create new knowledge in science and technology, and
- universal primary education and increasingly, universal secondary education as the threshold for the people to be able to absorb the advances in science and technology and use them for development.

In essence, in the world of today, the highest of education for a few is as important as basic education for all.

There are some who raise controversies over investment in higher education vis-a-vis primary and secondary education. It is wrong to resort to this kind of comparison, and pitting one against the other will be doing disservice to both. Universal primary education today is of paramount importance; but one does not stop investment in Engineering education or Medical education till universal primary education is achieved. The need for each of the sectors in the overall situation must be taken into account for arriving at a reasonable level of investment. Even a programme of universal primary education cannot be implemented in any meaningful manner and with any degree of competence unless the necessary leadership is provided by higher education. Modern developments in areas of knowledge provide instruments and concepts that can improve productivity and efficiency in education at all levels. In the post-industrial society which has become an information society or a knowledge society, learned professions play a key role. It is higher education that provides the leadership for learned professions. Consequently, we find that in the brief period of less than 50 years after the Second World War, the advanced and developing countries have established more universities than all the universities established before that date, beginning from the 12th century when Oxford University was established. Higher education has emerged decisively as an economic necessity in developing countries as well. With this background, I may come to the higher education scene in Tamil Nadu and offer some comments concerning its strength and weakness.

We are aware that Tamil Nadu is not rich in natural resources, whether it be land, water, minerals or materials. It has a population density far above the national average. Though the world has moved from the concept of standard of living and per capita income to quality of life, economic development is still a prerequisite for improving quality of life. The approach for the economic development of Tamil Nadu must be one that will be appropriate for a resource scarce state. Today Sigapore, Israel and Japan provide examples for achieving economic prosperity and improvement in quality of life under extreme constraints of natural resources. Tamil Nadu is rich in human resources which if well developed will lend itself to reaching the highest levels of sophistication, refinement and competence. Tamil Nadu represents an ideal situation where one should make the fullest use of the potential of knowledge and make appropriate investment in education at all levels and enter as early as possible the era of post-industrial society that thrives on servile industries in preference to the primary and secondary sectors.

If we survey the education scene in Tamil Nadu since independence, we could see that we have done very well comparatively speaking in the realm of literacy and school education, but failed somehow, for inexplicable reasons, rather badly to pay adequate attention to higher education. One of the visible indicators that surfaced and came to be observed by administrators and political leaders besides educationists is the decline in the percentage of successful candidates in All India Competitive Examinations. The performance of our candidates in I.A.S. and I.P.S. Examinations is not everything. It is symptomatic of the fall in standard of higher education and the possible loss that we may be sustaining in many fronts. It is so to say the tip of the iceberg.

It is pertinent to clarify a point in this context. Many seem to think that the performance of Tamil Nadu candidates has seen a decline only in the recent years. It is not so. The decline started in the late sixties itself as the following Table pertaining to I.A.S. selection will show.

There was in the Senate of the University of Madras as early as in 1969 a heated debate – one blaming the situation on poor standard of education in the University of Madras and others trying to defend the university, attributing it to other factors. However, the fact remains that this phenomenon has been observed nearly a quarter of a century back; since then the position has been deteriorating almost continuously and what is surprising is that even as of today there is no accepted diagnosis of the causes and initiation of effective measures.

Year	*Total Number of candidates selected*	*Candidates from Tamil Nadu*	*Candidates from Tamil Nadu as percent of total*
1948	29	6	20%
1949	30	9	30%
1950	32	9	28%
1951	29	9	31%
1952	37	9	24%
1953	30	5	17%
1954	41	9	22%
1955	48	17	35%
1956	55	16	29%
1957	74	20	29%
1958	60	20	33%
1959	50	16	32%
1960	70	24	34%
1961	86	18	22.5%
1962	98	17	17%
1963	84	11	13%
1964	84	9	11%
1965	126	11	8.7%
1966	137	9	7%
1967	137	11	9%
1968	97	7	6%
1969	87	5	6%
1970	90	4	4%
1971	87	10	11.5%
1972	144	6	4%
1973	126	9	7%
1974	145	11	7.5%

The subject becomes alive when the results of competitive examinations appear and we feel dismayed over the poor performance of the State and then forget it only to revive when the next results are announced. It is not as though we have only IAS and IPS examinations in the country. We have so many of them – IIT Joint Entrance Examinations; All India Examinations for admission to Medical Colleges against the merit quota; National Talent Search Examinations; National Defence Academy Examinations, UGC-CSIR Fellowship Examinations, GATE Examinations, Central Services Examinations, and others. It is really surprising that we do not have today a mechanism in Tamil Nadu to review systematically every year how our High School, Higher Secondary School and University graduates perform in these examinations. An analysis each year will help us to measure our standards on the national level, identify the weaknesses and initiate remedial measures in time.

Coming back to the relatively poor performance of Tamil Nadu in All India Competitive Examinations for Central Services, people have advanced various reasons. Some attribute it to medium of instruction; some others to poor standard of English; yet others to the reservation policy of the State and some to the curriculum and syllabi. It seems to be another case of the blind men and the elephant. The phenomenon of blind men comprehending an elephant has eternal validity. These men will be found in all ages; in all areas of activity. They are immortal. I may also join this group and present my perception of the phenomenon. It is my considered opinion that while all the causes mentioned in the foregoing may have some role to play, the main reason is the relatively poor standard of postgraduate education in Tamil Nadu.

In the country as a whole, about 55% of the postgraduate students are in affiliated colleges and 45% in university campuses. In Tamil Nadu nearly 80% of the PG students are in affiliated colleges and only about 20% in University Departments. Any one who has some knowledge of the difference in infrastructure facilities such as laboratories, library, research and qualified staff between university departments and most of the affiliated colleges can realise the implications of this lopsided distribution of PG students in this State in terms of standards. There has been in Tamil Nadu a strange philosophy that admissions to university departments are to be limited to M.Phil. and Ph.D. candidates and other postgraduate courses are better offered in affiliated colleges. The consequence of this approach has been disastrous for higher education in Tamil Nadu.

The affiliated colleges till recently, were not entitled to have Professors; not even Readers. The funding is almost limited to staff salary : there is hardly any research in most of the affiliated colleges. It is difficult to maintain a high quality of postgraduate education in an environment where there is no research; no Professor; not even a Reader. How do we expect a postgraduate student from any of the affiliated colleges to compete with a student from JNU or Delhi University or Panjab University. I am sorry to say that in comparison to them many of our affiliated colleges look pathetic and our

	Professor	*Reader*	*Lecturer*	*Total*
University of Madras	113	126	132	371
Annamalai University	140	240	297*	677
Madurai Kamaraj University	61	101	92	254
Bharathiar University	29	39	44	112
Bharathidasan University	26	20	37	83
Tamil University	22	20	30	72
Mother Teresa University	4	5	23	32
Alagappa University	9	19	54	82
Total of all the Universities	404	570	709	1683
(* does not include 90 tutors)				
Benares Hindu University	250	515	950	1715
Delhi University	166	377	367	910
Osmania University	168	269	280	717

postgraduate students are concentrated in these institutions. We are doing great injustice to the community of postgraduate students in this State. Wherever postgraduate courses are offered, the faculty, library and laboratory requirements must be the same.

The major Tamil Nadu Universities still maintain predominantly the characteristics of affiliating universities and have not developed their campuses comparable to many of the important universities in other parts of the country and continue to remain small in faculty strength and student enrolment. I try to make an assessment of the faculty strength of the Departments in the eight Arts and Science Universities of Tamil Nadu. The figures as obtained from the UGC on the basis of the data given in the VIII Plan proposals are as follows :

I realise that there may be some discrepancies in the figures given; but that certainly will not alter the total picture and the comparison drawn. It can be seen that the Barnaras Hindu University alone has a staff strength equal to all the eight universities put together.

My discussion today is restricted essentially to postgraduate studies and university campuses because these count for competitiveness in educational efforts and intellectual pursuits. All over the world, the universities are the venues for advanced research and centres of excellence. Even if we take higher education in general, we are not among the leading States in the country. Tamil Nadu has six colleges per million of population. The figure is 16 for Karnataka; 12 for Maharashtra; 12 for Punjab; 10 for Orissa; 10 for Himachal Pradesh and 9 for U.P. The national average is eight. Considering enrolment, we have 540 students per lakh of population in Tamil Nadu. The figure is 785 for Punjab; 723 for Maharashtra; 605 for Gujarat and the national average is 496. As stated earlier, I am not touching on higher education or affiliated colleges in general on this occasion and am confining myself to the universities.

In the three decades after Independence we failed to establish adequate number of universities. In 1947, there were 18 universities in the country and two were in Tamil Nadu. In other words, one out of every 9 universities was in Tamil Nadu. The fifties and sixties were years of expansion of university education in India. By 1965, the number of universities grew to 65; but Tamil Nadu still had two; i.e. one out of every 32 universities and in that year it established the Madurai University as the 66th University in the country.

The Government of India took a policy decision to support the establishment of Agricultural Universities in the major States of India. The first Agricultural University was established in 1960 in U.P. The Agricultural College at Coimbatore was one of the oldest and the most reputed colleges in the country and must have been among the earliest ones to become a university; but we did not do it. It was only in 1971, a decade later, we upgraded the College as the 11th Agricultural University in the country.

Tamil Nadu was imaginative, far sighted and a leader in its outlook and approach in the case of School Education in general and Primary Education in particular. It paid attention to Professional Education, as well, at the collegiate level. But somehow, the same has not been the case in university development.

From 1857, when the University of Madras was established, to 1977, during 120 year period, we established in Tamil Nadu four State Universities. From 1978 to 1990 in a twelve year period, Tamil Nadu established eight State Universities and one Deemed University. It is an imaginative and commendable step of setting right the lapses of a long period. But educational institution is not one of equipment and building. It is matter of scholars; the creation of an atmosphere of enquiry; and promotion of intellectual pursuit and scholarship. It is above all, the development of a tradition. Unfortunately, tradition to a great extent is a function of time and is not something that can be established overnight, transplanted from elsewhere or made to order.

University development today is expensive and needs adequate financial support. The university should have a critical mass in terms of staff and students in order to be able to build and maintain such facilities as good library, an in-house computer centre, and some of the major equipments in laboratories. Since we missed the period when the Government of India was liberal in promoting universities, and woke up to the situation when Government of India started discouraging new universities and also since we have to support a number of universities established in quick succession, these infant universities, most of them, are suffering from paucity of funds. Provision for education in general, as percent of total budget in Tamil Nadu has been satisfactory compared to the national average. But the provision for higher education as percent of the education budget has remained lower than the national average. The position has been even worse when it comes to allocation for universities. There has been an improvement in the late seventies and eighties with the establishment of new universities. Still, Tamil Nadu allocation for universities is very low compared to any one of the Southern States. It is reported in the budget of 1991-92 that a provision of Rs. 18.83 crores has been made for block grants to the 11 universities excluding Agricultural, Veterinary and Medical Universities. This is certainly an improvement over the provision of Rs. 11.70 crores during 1990-91 and must be appreciated and commended. However, the paucity of funding to the universities in Tamil Nadu in general, can be seen from the fact that the non-plan budget of a single university like the Banaras Hindu University alone in 1990-91 was Rs. 41.0 crores.

We do understand and appreciate the financial constraint of the State; but universities mean so much to development in an age of science and technology that we cannot afford to leave them as they are. I would like to differentiate between higher education in general and universities in particular. My plea now is on behalf of the development of universities, which alone will ensure excellence in postgraduate education, advanced research and innovative efforts in the field of education. The single most important step needed in the field of higher education in Tamil Nadu is the development of the campuses of the universities. It is urgent and imperative that we make a critical study of the situation and draw up a plan of university development. If we make a beginning now and pursue with determination and wise counsel, we may reach, by the end of this century, a stage that may give us some satisfaction.

There is yet another aspect in Tamil Nadu Higher Education and that concern correspondence courses. In the country as a whole, 10.5% of the students in the university system are enrolled in correspondence courses in the year 1988-89. But in Tamil Nadu the percentage is 41.1 for the same year. As per the 1991-92 budget report, there are 210,000 students in the Arts and Science Colleges in the conventional face to face system and 198,000 in the correspondence mode. Most of the correspondence course students will be from Tamil Nadu. The ratio is almost 1:1. Therefore, the quality of correspondence education becomes important for Tamil Nadu while it is not so for many other States. Can we honestly say, we are providing satisfactory instructional materials and adequate support services to the students in correspondence courses? Are we being fair to them? Some universities look at correspondence education as a source of income to sustain the activities of the university. In other words, correspondence courses yield profit. It is a strange phenomenon in this country that industries are incurring losses and education is making profit. The phenomenon needs a closer look. It is necessary to transform the correspondence courses to regular distance education courses with a multimedia approach : network of study centres and regular counselling sessions.

The nineties in India will be a period of establishing Open Universities. The Planning Commission Working Group on Higher Education has contemplated an additional enrolment of one million students during the Eighth Plan period. The Working Group has recommended that half of this strength must be catered to by the distance education system. That in a way indicates the importance that this system is likely to enjoy in the Eighth Plan and in the years to come. The Central Advisory Board of Education (CABE) which is the highest policy making body in education in the country, has recommended in its 46th meeting held on 8-9 March, 1991, that every State must set up an Open University. There is already a National Open University and four State open universities – one each in Andhra Pradesh, Maharashtra, Rajasthan and Bihar in the country. Madhya Pradesh, Karnataka, Gujarat and Kerala are moving in this direction. Tamil Nadu at present has a strong correspondence education programme. Over 40% of the students enrolled in correspondence education in the country are in Tamil Nadu universities. It should take advantage of the position and transform the existing courses into distance education mode. Tamil Nadu may, as early as possible, set up an Open University and/or organise the existing correspondence courses in the three major universities into autonomous distance education institutions with administrative, academic and financial autonomy and ensure that the receipt either from fees or grants are not diverted, but utilised for the improvement and maintenance of quality and diversification of courses.

The distance education system is neither an alternative or a supplement to the conventional system. It is, as pointed out earlier, the third stage in the evolution of education. It caters to the needs of that clientele which the conventional system does not serve and mostly cannot serve. It meets those demands of the information society and those challenges of the new era that the conventional system may not be able to face and adequately respond to. In a matter of 25 years, the distance education system has made tremendous progress. There are today in over 60 countries more than 300 distance education universities, offering about 10,000 courses. It has two great aspects that are unique :

– It marks the transformation of

education from craft to technology. Like every other field of activity, education now makes use of the tools of science and technology. It has, therefore, a high productivity and can handle large numbers, make optimum use of manpower and other resources and bring down per capita cost.

- It has a remarkable degree of flexibility. It enables the student to learn at his own pace and place and transcends the economic, social and geographical barriers. As we stand towards the end of the 20th century, we realise that it is more convenient to transport knowledge to people, rather than people to places of knowledge. Distance education can help to carry education to the homes, offices, workshops, factories and fields.

There are three factors that have ıecessitated the emergence of dis:ance education. They are :

(i) The need for universal primary and secondary education,

(ii) The growing importance of "continuing education", and

(iii) The demands for equity and equality of opportunities.

- The universal primary education and the slowly emerging need for universal secondary education will involve such numbers of additional manpower and cost that a system that is cost effective and highly productive is necessary.
- Continuing education is a need that is becoming increasingly important consequent to the rapid growth of knowledge and the rate at which obsolescence sets in.
- Education has become a vehicle for upward social mobility and a tool for economic development. Consequently, clamour for opportunities is more intense today and the demand for equity and social justice is assuming somewhat disturbing proportions. We seek to meet these demands by making reservations. No doubt, reservation may ensure a more equitable distribution of what is available, but it will not create additional opportunities; it may make education available, but may not make it accessible to the socially and economically disadvantaged. Political solutions to social problems often have the characteristic of pleasing many and frustrating some. One can seek a solution through technology that can augment the opportunities, improve accessibility and meet the educational aspirations of larger number of persons and ensure a much higher level of satisfaction. It is highly desirable that Tamil Nadu consolidates the lead it has in correspondence education and transforms it into full fledged distance education system. It is a system that has immense potential. It is a tool that will be as powerful and effective as our ingenuity and imagination can make it.

In conclusion, I may make the following observations :

Tamil Nadu has not been favoured by nature with adequate natural resources and it is in essence a resource scarce State. Fortunately today, science and technology provide opportunities for growth and development against many odds. What science can do depends, not on itself but on ingenuity, ability and imagination. We have to depend on education, research and the development of human resources. It needs not only funds, but more so a State policy on education and political will for implementation. Education is an area of activity where all leaders of political parties, irrespective of their differences, have to come together and act, having in mind the future of the State. Education does not lend itself to short term measures; it cannot suffer frequent changes. Any policy needs a fairly long period to yield results and therefore, it has to be above the din and dust of uncertainties and changes that fortunes of political parties may bring about.

A review of the development of higher education in the State during the last seven plan periods, an assessment of the achievements and failures, a projection of the short and long term needs of the State, measures needed to be initiated and the additional machinery required for proper planning and implementation may have to be set out in the form of a State policy and higher education and research and implemented with vigour and competence.

Tamil Nadu has unfortunately lagged behind in the development of universities and university campuses in the first three decades after Independence. We remained outside the mainstream of major developments that were taking place in the country. It is not by any design or decision; It has nothing to do with the parties in power; it is by and large the result of lack of application of mind,complacency and illusion that we are and we will always be a leading State in higher education and research. In the modern world, if you stop for a moment, you would be left behind by miles.

The State will have to consider seriously investing reasonable sums of money for developing in a substantial manner in the Eighth Plan, the university campuses, especially the newly established ones. During the eighties the State has done well in setting up new universities; the nineties must be a period of determined efforts to develop these universities. Each university must be an acknowledged centre of excellence in two or three disciplines as Madurai Kamaraj is in Life Sciences. Higher education is a matter of scholars deeply interested in intellectual pursuit. Talents must be sought after and attracted to the campuses transcending boundaries of State and avoiding unacademic considerations. Mediocrity breedes and promotes mediocrity. It will block and frustrate all efforts to achieve excellence. All higher accomplishments need Olympic levels of endowment and preparation. The rule is now absolute: a Society or a Nation that fails to recognise the power of knowledge and value those who are well endowed with the capacity to create and apply knowledge is doomed.

In Tamil Nadu postgraduate education is concentrated in affiliated colleges and percentage of PG students in university campuses is less than half of the national average. This imbalance has serious adverse consequences for quality of advanced studies and research. Conscious efforts must be made on a planned basis to initiate and implement corrective measures.

Interdisciplinary studies and group efforts have become inevitable for building up centres of excellence. Unless a department has five to six Professors and corresponding strength of Readers and Lecturers, it cannot hope to become a centre of excellence. In advanced countries, major universities themselves are coming together tc offer educational programmes and undertake big research schemes. The tendency here is to split the staff of well established disciplines like Physics and Chemistry and create departments for each sub-discipline; while amalgamation is the order of the day in advanced countries, splintering seems to be our speciality. This must be firmly checked. Hierarchical approach is in our culture. Horizontal cooperation is the desideratum.

A review of the performance of candidates from Tamil Nadu in the various competitive examinations at all levels must be made systematically every year; the findings must be made public and quick corrective measures must be initiated when inadequacies are observed.

At present there is no machinery to coordinate at the State level the programmes of the universities, identify deficiencies, perceive new demands, review the performance and advise the Government on the State of higher education and research in the State. In the absence of an appropriate management system, investment will not yield the anticipated results. The National Policy on Education has recommended the establishment of the State Council of Higher Education in each State. The Government of Tamil Nadu must be congratulated on its announcement concerning the establishment of an Advisory Body on education and a State Council of Higher Education. The Council must be established as early as possible with adequate powers.

Bharathidasan University

Achievements & Aspirations

Excerpts from the VC's Report by Dr. S. Muthukumaran

The University area encompasses the four Revenue Districts of Tiruchirapalli, Thanjavur, Nagapattinam Qaidemilath, and Pudukkottai. Located at the centre of the glorious Tamil culture, this University caters to the academic and cultural needs of the young men and women coming mainly from the rural surroundings.

Campus

In the sprawling main campus of the University, spreading over one thousand acres of land and situated on the border of Tiruchy- Pudukkottai Districts, are located the Departments of Study and Research in Tamil, English, Mathematics, Physics, Chemistry, Botany, Zoology, Economics, Sociology and Futurology, besides the Administrative buildings, the Library, Computer Centre, Guest House, Staff Quarters etc. In addition to the well-laid gardens, the 500 acres of different species of plants and trees under the Energy Plantation Demonstration Scheme have turned the Campus into a lush greenery, conducive to academic work. The town campus, in about 50 acres, is put to effective use by the Academic Staff College, School of Earth Sciences, Department of Educational Technology and School of Energy, as well as the Students' Information Centre.

University Departments/Schools

In pursuance of our policy of expansion, concrete steps are being taken for the creation of the Departments of History, Biotechnology and Commerce, and formation of the School of Life Sciences and the School of Social Sciences, shortly. The University Departments/ Schools are fairly well equipped with some of the latest equipments like NMR, spectrophotometer, Gas Chromatograph, etc. for advanced research. There is a small workshop for the maintenance of equipment. Arrangements are being made to group together the instruments in the Science Departments in the proposed University Science Information Centre for their optimum utilisation.

The University Departments/Schools are oriented mainly towards Research programmes like Ph.D., M.Phil. and Research projects. However, some PG Courses like M.Sc. (Five year) Integrated Plant Sciences; M.Sc. Chemistry, and Mathematics; M.A. Sociology, and English; M.Ed. and PG Diploma in Remote Sensing are offered in test Departments. Proposals for about 22 projects to the tune of Rs. 380 lakhs have been forwarded during this year to various research funding agencies. Of these major research projects, submitted to agencies like DST, DOE, DOD, ICAR, DNES, UGC etc., projects worth over 95 lakhs have been approved.

Tissue Culture Laboratory

The University, in collaboration with the Tamil Nadu Forest Plantation Corporation Limited (TAFCORN), Tiruchirapalli, is establishing a Tissue Culture Laboratory in the Department of Botany with the technical support of the National Chemical Laboratory (NCL), Poona, and with financial aid of about Rs. 28 Lakhs from the National Bank for Agricultural and Rural Development (NABARD) and from the TAFCORN. This collaboration is the first of its kind between the State Forest Department and the University. The work of establishing the laboratory which will be used by our Scientists for research on Tissue Culture in Forest Species is nearing completion, and equipment worth 20 lakhs have already been acquired.

Marine Cyanobacterial Germs Plasm Collections (Satellite Centre of National Facility)

The DBT has sanctioned the establishment of National Facility for Marine Cyanobacterial Germs Plasm Collection as a Satellite Centre of the National Facility for Blue Green Algal Collections, I.A.R.I., New Delhi, in our University. The Facility would be for a period of five years from 1990-91 at a total cost of Rs. 72.96 Lakhs. An initial grant of Rs. 22.95 Lakhs has been released for the year 1990-91. The Facility will survey the Indian coasts to enumerate the available cyanobacterial wealth in the country and also serve as a gene bank for biotechnological studies all over the country. It will also impart training to research students and workers in methodologies of cyanobacterial research, and also help the rural folk of the coastal areas to produce cyanobacterial biomass.

Entrepreneurial Development Programme

An Entrepreneurial Programme was organised by the RITES (Rail India Technical and Economic Services Ltd.) at Trichy, co-sponsored by the Bharathidasan University, DST, Industrial Development Bank of India, Industrial Finance Corporation of India, Industrial Credit and Investment Corporation of India, Tamil Nadu Industrial Development Corporation Ltd., Indian Bank and the Trichy District Small Scale Industrial Association. The Programme was arranged to identify entrepreneurs for manufacture and supply of Railway related products. It aimed at creating self-employment opportunity for about 35 science graduates, after six weeks' training programme.

Library

Computerization of information services such as Bibliographical Control System, Serials Control System and Circulation Control System has been installed on the right track. Bibliographical database of the backlog have almost been completed. There is a possibility for linking the University Library with the INFLIBNET (Information and Library Network).

Schools of Excellence

The two schools of Excellence, Bharathidasan Institute of Management and the School of Energy, which have been conceived as autonomous and self-sustaining to the extent possible, are emerging as fulfledged institutions with the addition of fulltime faculty, and P.G. as well as research programmes. The Institute also conducts short term Management Development Courses for practising Managers in the Public and Private Sectors. Besides, it has been retained to develop a Performance Appraisal system by reputed industries like the Kothari Sugars and Dalmia Cements.

The Bharathidasan School of Energy, apart from offering an M.Tech. programme in addition to M.Phil. and Ph.D., developes new equipments and devices for the conservation of Energy and handles fabrication projects on turn-key basis for user agencies such as Tube products of India, Kerala State Cashew Development Corporation, the Madras Motors Limited. The school won the first prize for its high efficiency wood-burning stove at the Energy '90 exhibition organised by the Tamil Nadu Energy Development Agency, MRL Ltd., and Petroleum Conservation Research Association, Ministry of Energy, Government of India.

International, National and other Seminars/Workshops/Conferences

Recognising the vital role played by interaction among academics in the dissemination of knowledge and encouragement of innovative programmes, the University departments had organised more than 20 Workshops, Seminars and Conferences dealing with the state of the art in various disciplines during the period under review.

Training Programme for Teachers of Higher Secondary School

For the attainment of excellence in Higher Education one of the prerequisites is to get well-informed and good students from Schools. With a view to achieve this and to help the Teachers of Higher Secondary School Teachers to equip themselves to handle the enriched plus 2 syllabi, a centrally sponsored training programme in Science and Mathematics for 100 Higher Secondary Teachers in the Trichy Educational District was conducted by the Departments of Chemistry, Physics, Life Sciences and Mathematics.

Water Divining

The School of Earth Sciences of our University has been selected as consultant to the TWAD Board for water divining in the chronically drought-prone areas.

Curriculum Development Cell

Realising the need for revitalising the curriculum so as to make it responsive to the demands of the user agencies and to make it sensitive to the national and societal needs, the Postgraduate courses have been restructured and the updated curricula were implemented from June 1991.

A new and an innovative course, PG Diploma in Actuarial Science, first of its kind in India, has been designed and introduced from the academic year 1991-92, in collaboration with the user agency, the Life Insurance Corporation of India. Besides, steps have also been taken to design the necessary curriculum for B.Sc. Geophysics and B.Sc. Microbiology courses.

In collaboration with Dr. P.R. Nayar, Professor Emeritus, University of Mysore, a One Day Seminar on "ACCREDITATION SYSTEM IN HIGHER EDUCATION" was organised, to discuss the intricacies of the accereditation system and to develop suitable strategies in the system in higher education.

Examination Reform

The entire Examination process – prepataion of the nominal rolls, hall tickets, mark lists and degree certificates has been computerised.

In addition to mark statements for individual examinations, consolidated mark lists at the time of completion of the course are also issued to the students. Arrangements have been made to issue the Provisional Certificates to all the candidates immediately after they pass all the papers for the respective Degree Courses. To help a few candidates who are affected by inadvertent errors in the evaluation of papers, a scheme of revaluation has been introduced.

Bharathidasan Centenary Celebrations

In connection with the Centenary Celebrations of Pavendar Bharathidasan during 1990-91, a colourful commemoration volume has been brought out by the University. On that occasion the Government of Tamil Nadu honoured some eminent personalities including our Chief Guest Dr. V. C. Kulandai Swamy for their research and writing on the works of Bharathidasan or for their close association with the poet. The valediction of the Centenary celebrations was held on 7th May 1991 in our University. Apart from a special address delivered by Thiru Manner Mannan, son of the Poet, a book of Selected Poems of Bharathidasan with English translation was released by Dr. A. Gnanam and prizes were distributed by Dr. K.A.P. Viswanatham to the students who won prizes in the oratorical, essay and poetry competitions conducted by the University as part of the Centenary Celebrations.

Publication of Text-Books in Tamil

A project of preparation and publication of standard text-books in Tamil for the undergraduate courses has been launched by the University, in tune with the New Education Policy of the Government of India in using the mother tongue as the medium of instruction from the primary to Ph.D. levels of Education, and the policy of the Government of Tamil Nadu for encouraging Tamil at all levels. In the first phase, the five disciplines of Physics, Chemistry, Zoology, Economics and Commerce have been chosen. So far 71 books have been assigned covering 28 papers for the first year, 14 papers for the second year and 29 papers for the third year of the UG courses.

For this project, the University has created a Revolving Fund and allocated Rs.2.50 lakhs as its share initially. The expenses incurred for the publication will be met out of the Revolving Fund and the sale proceeds will be ploughed back to the Fund so that more and more books can be published. The Government of Tamil Nadu has sanctioned Rs.5.00 lakhs as a Revolving Fund to this University under the scheme of Publication of Text-Books in Tamil by the Universities in Tamil Nadu.

Out of the 71 books assigned, 8 books have been printed, 9 books are under print and are expected to be ready for release shortly. Another 8 books are getting ready for printing, and the remaining 46 books are in various stages of preparation.

Dictionary of Tamil Musicology

A unique project of compilation and publication of a Dictionary of Tamil Musicology, the first of its kind, is progressing well. The first volume is under print and may be released in a month or two.

Environmental Sciences

Environmental Science has been introduced as a course of study in our University. The Society for Environmental Education has been established at Tiruchirapalli. The Society has taken up a hydrological study of the River Cauvery with the financial assistance from the Ministry of Environment & Forests, Government of India. Thirteen projects for interdisciplinary study of the Ecosystem of the Western Ghats at an estimated outlay of Rs. 40 lakhs are being launched. A Two Day National Seminar on Awareness of Environment in the Literary Treatises of Bharathidasan was organised by this University in association with the SEE Tiruchirapalli in which more than 32 research papers were presented. The Society for Environmental Education has created an endowment of Rs. 10,000 for a lecture on Environment. It is planned to conduct a few short-term certificate courses for the benefit of the non-governmental Organisations which are concerned with Environmental work or involved in such schemes.

Further the University has undertaken the publication of an Environmental Journal "Soozhal Ulagam", in Tamil, which is a translation of "Paryavaran", an abstracting Journal in English on current Indian Literature on Environmental Sciences by the Ministry of Forest and Environment, for spreading information among the Research students as well as general public.

Academic Staff College

The Academic Staff College started in 1987 has acquitted itself well and the Expert Committee to review the work of the Academic Staff College was happy with the work being done by the Academic Staff College of our University, and as a mark of recognition, the U.G.C. has decided to continue the assistance for another 5 years. The Staff College has already conducted during the year under review three U.G.C. Refresher courses; one on Remote Sensing Application in Coastal Geomorphology and Coastal Zone Resources Co-ordination, in collaboration with the School of Earth Sciences; second on Histo-Chemistry and Phyto-Chemistry in collaboration with the University Botany Department; and third on Comparative and Commonwealth Literature in collaboratin with the University English Department. In addition, an Orientation course for College teachers has been conducted. The Academic Staff College has brought out a Journal, "QUEST" providing an opportunity to the trainees for discussion and dissemination of information with their peers.

For the next year i.e. 1991-92 three Refresher and three Orientation courses have been planned.

Affiliated Colleges

Of the 52 Colleges, thirty seven are Arts and Science Colleges, nine are Professional Colleges and six are approved institutions.

An overall view of the Colleges/institutions under the jurisdiction of our University is presented below (at the bottom).

More than 20 colleges have been recognised for conducting research programmes leading to M.Phil., and Ph.D., Degrees in various disciplines. In all, there are nearly 50,000 students on the rolls of these institutions, undergoing various courses and engaged in research programmes.

Bharathidasan University has granted/extended autonomy to six of its Arts and Science colleges and one Engineering college.

In this Convocation 12,399 candidates will be receiving their degrees either in person or in absentia. Of these 53 are Ph.Ds. and 426 M.Phils.

Research Degree Programmes

Apart from the University Departments of Study, Research and Extension there are about 20 affiliated colleges recognised as research centres for M.Phil. degrees

Details	*Category*	*No. of Colleges*
Colleges of General Education:		
Co-education	Government	10
	Aided	15
	Unaided private	1
Women	Government	4
	Aided	3
	Unaided private	4
Professional Colleges		
Co-education		
Law	Government	1
Music	Aided	1
Engineering	Government	1
	Unaided private	3
Education	Government	2
Fine Arts	Government	1

and 17 colleges/institutions for Ph.D. degrees. In addition, a number of Summer Sequential Programmes for part-time scholars have been conducted for the benefit of College Teachers. With the result there is hardly any college teacher in this University area who has not acquired the M.Phil degree.

National Service Scheme

Bharathidasan University has been implementing the National Service Scheme through 47 affiliated colleges and units at the University level. Besides the adoption of some villages and the conduct of multipurpose camps for imparting literacy and undertaking activities like cleaning up of streets and deepening the ponds, the NSS of our University, in collaboration with the Police Department in Tiruchy, has implemented the project on regulation of traffic control and election bandobust during Lok Sabha and Tamil Nadu Assembly elections held in May and June '91 respectively.

Cultural Activities

Bharathidasan University has organised and conducted Inter-collegiate Cultural Competitions which broadly include various events like dance, fine arts, music, literary and theatre events.

The cultural team of Bharathidasan University participated in the National Youth Festival, ~~1990~~, conducted in February '91 and won prizes in Group Song (Western), Folk Dance, Skit and Mime and Group Song (Indian) events. Bharathidasan University won the highest number of awards (34 Nos.) in the Youth Festival.

Adult, Continuing Education and Extension

Adult learners were made literate through Adult Education programmes, 871 learners through MPFL; more than 9300 members have been enrolled on the Jana Shikshan Nilyams and 1287 students and educated youth have been involved in the population education club activities. At present in the second phase of literacy programmes under area development approach 30 affiliated colleges have been involved. The U.G.C. has sanctioned Rs. 3 lakhs for the implementation of these programmes. The Department has set up an Audio-Visual Unit with the financial assistance of Rs. 50,000 from U.G.C. The Department has undertaken a basic fact finding survey in the three villages in Kumbakonam taluk adopted by Kundrakudi Adheenam and published a profile of the villages. The department has also prepared several publications including the Manual for the implementation of the Adult and Extension programmes through the students and teachers of the University and Colleges. As part of the academic programme, there are five candidates doing doctoral work.

National Cadet Corps

During this year 3,539 men and 785 women cadets have been enrolled in the Senior Division NCC. 118 cadets attended All India Camps, 900 cadets attended Annual Training Camps and 50 cadets attended Attachment camps with Services units. 12 cadets (Men and Women) attended the Republic Day Parade in January 1991 at New Delhi. In the XXXII Tamil Nadu Shooting Competition, our cadets won 2 gold, 2 silver and 1 bronze medals. Two SD boy cadets and one SW girl cadet of our University are now attending Indo-Canada Youth Exchange Programme.

Sports and Games

R. Baradwaj created a new record by clearing 7.37 metres in Broad Jump and won a gold medal in the South Zone Inter-University Tournaments held at Mangalore. He also won a gold medal in Broad Jump at the All India Inter-University Atheletic Meet held at Kalyan.

- Our Ball Badminton Men's team won the All India Inter-University Championship, held at Coimbatore.
- Our Volley Ball Men's Team won the South Zone Inter-University Tournament.
- P. Pandy won first place in Javelin Throw in the South Zone Inter-University Tournament.

Towards a Metanoic Organisation for Indian Universities

(Contd. from page 1)

Thus the extraordinary and unique contributions that each individual, be he a professor or a student or a supporting staff, can make to the university system be fully realised.

In the contemporary structure of Indian universities, as we move towards metanoic organisations the universities will discharge their role to ensure the sustainability of the society and the spread-effects of the university must impact on adult education and literacy measures, regional development etc.,besides inculcating values amongst the community. The new structure of a metanoic organisation, hopefully, will usher in a new era of the university system fulfilling Jawaharlal Nehru's vision, articulated in the very first year of Independence, that "if all is well with the universities, all would be well with the nation".

Delhi College of Engg Golden Jubilee

The Union Minister for Human Resource Development, Mr. Arjun Singh, urged the industry to participate in the training of scientific and technical manpower to meet the developmental needs of the country. He was inaugurating the Golden Jubilee function of the Delhi College of Engineering (DEC), recently. He said the biggest challenge for those engaged in developing technical education in India was to see that engineers did not go abroad.

Dr. V. Krishnamurthy, Member, Planning Commission, said engineers could play an important role in the economic reforms initiated in the country. He said the much needed exports could be increased by better management and improvement in quality of Indian products.

Stressing the need for better absorption of imported technologies, Dr. Krishnamurthy said despite having a large number of technical education institutions in India the technical gap between our country and the West had been widening with time. The economic transformation would improve the operating environment and status of Indian engineers without whom this changeover could not be achieved, he added.

Mr. Y. K. Modi, Managing Director of Modi Alkalies Ltd., called for greater association between institutions imparting technical education and the industry. He said the problem of 'brain drain' could be tackled only by establishing healthy professional environment in the country. Subjects like personnel management, if taught in engineering institutions, would greatly help the students effectively meet the challenges which they would be facing once they come out of the educational institutions, Mr. Modi added.

IIT to Set Up Industrial Foundation

The Indian Institute of Technology (IIT), Madras, proposes to set up an industrial foundation and research parks with active participation from the industry.

The Foundation would deal with the development of a prototype and pilot plant, goal-oriented industrial research in generic areas and manpower exchange between the Institute and the industry.

According to Prof V.S. Raju, Dean, Industrial Consultancy and Sponsored Research at the IIT, the Planning Commission and the Union Ministry of Human Resource Development had asked for proposals from IITs for interaction with industry. The Planning Commission had held a meeting with all the five IITs and the proposal is an outcome of the strategies identified at the meeting.

Prof Raju said another proposal was to extend ERNET (Electronic mail facility linking all IITs and the Indian Institute of Science, Bangalore, and Department of Electronics and other research institutions) link of research and development units of industry. The modalities of such a link are being worked out. Once finalised, IIT, Madras, would offer the facility to the Institute's industrial consultancy associated with R and D component, Prof Raju said.

Eminent scientist Dr. M. S. Swaminathan, who is also the Chairman of the Board of Governors of the IIT, said that that India could make use of the comparative advantage in agricultural exports.

Training Programmes in Educational Administration

The Centre for Work Study in Educational Administration of the Panjab University, proposes to organise various training programmes during 1992-93. These include (1) Management of Disciplinary Proceedings, 8-14 April 1992; (2) Training for Personal Secretaries, Personal Assistants and Stenographers, 22 April-2 May, 1992; (3) Management of Accounts, 13-23 May 1992; (4) Use of Computers in Administrative, Financial and Personnel Management in Universities/Educational Institutions, 22 July-1 August 1992; (5) 4-Week Management Development Programme Phase-I, for Assistant Registrars/Deputy Registrars, etc., 10 August -3 Sept 1992; (6) 4-Week Management Development Programme Phase-I, Module-I, for Assistant Registrars/Deputy Registrars, etc., 10-20 August 1992; (7) 4-Week Management Development Programme Phase-I, Module-II, for Assistant Registrars/Deputy Registrars, etc., 24 August - 3 Sept 1992; (The courses at Sr.Nos. 6 and 7 are separated Modules of the programme at Sr. No.5. The course at Sr.No:5 has been bifurcated into two separate Modules. If one cannot attend the 4-week Management Development Programme continuously, he can complete it in two Modules at different periods also. He will be eligible to the certificate for 4-week Management Development Programme if he completes both the Modules of two weeks each); (8) Innovative Approaches to Productivity Improvement in University Administration for Registrars, Controllers of Examinations, Finance Officers and other officers of the rank of Deputy Registrar, 24-30 Sept 1992; (9) Effective Office Supervision for Section Officers, Superintendents and other officers of the same/higher rank, 12-22 Nov 1992; (10) Improving Office Services for Office Assistants, Clerks and other officials of the same/higher rank, 2-12 Dec 1992; (11) Methods and Procedures Improvement in Offices, 6-18 Jan 1993 ; (12) Work Measurement and Developing Work Norms in Offices, 20-31 Jan 1993; (13) Organisation Analysis and Organisation Designing/Structuring, 3-13 Feb 1993; (14) 7-Week Basic Course in Administrative Analysis and Improvement (Work Study/Management Services), 6 Jan-23 Feb 1993; (15) 13-Week Advanced Course in Administrative Analysis and Improvement (Work Study/Management Services), 6 Jan-6 April 1993; and (16) Records Management and Filing System, 25 Feb-2 March 1993.

Further details with regard to participation, etc. may be obtained from Mr. Shital Prakash, Honorary Director, Centre for Work Study in Educational Administration, Panjab University, Chandigarh.

Industrial Policy1991

"University education has so far been nurtured too much in an ivory tower atmosphere & professional managers must take charge to improve the situation", felt Mr. T. C. Datta, former Chief Secretary, Government of West Bengal & presently Chairman of West Bengal Industrial Development Corporation. Mr. Datta was speaking as a theme speaker in the one-day seminar on "Industrial Policy-1991 — Corporate Strategies" organised recently by the Department of Business Administration, University of Burdwan. The chief guest, Dr. B.K. Sarker, Secretary, Commerce & Industries, Govt. of West Bengal, called upon professional managers to be more responsive to the emerging challenges facing the country under the new system. The need of the day was to effect improvement in productivity and efficiency through optimum utilisation of resources. With this conviction Dr. Sarker observed that the absence of a professional & dynamic management cadre contributed largely to the failure of Public Sector Undertakings. Privatisation must, therefore, be welcomed on that count. He did not, however, subscribed fully to the view that privatisation was the only panacea of all ills of our economy.

To Mr. T. C. Datta the problem was not so much of confrontation between Public & Private Sectors as one of growing rapidly within one's resources. According to Mr. Datta the slogan for a socialistic pattern of society had lost its relevance today because public sector managers were unable to compete with highly professionalised private sectors. He, however, felt that liberalisation would accelerate pace of development only if there was proper management of resources. Otherwise, the country might be plunged more deep into the debt-repayment problem. Mr. Datta, in this conection, cited the example of Brazil & Mexico where, in spite of the IMF debts, situation had sharply deteriorated.

Mr. Kunal Bose, Editor, Dateline Business, in his address warned that the new policy must guard against unhealthy monopolitic environment which is likely to be created by mergers & takeovers.

Earlier, recording his views on the implications of new Industrial Policy, the Vice-Chancellor Prof. Mohit Bhattacharya, felt that while the new policy augured well for liberalisation and deregulation, the ultimate consequences would depend on how the policy was actually implemented.

Among others who spoke on the subject included Prof. S. Banerjee, Chief Executive (Finance), the Peerless General Finance and Investment Co. Ltd., Mr. S.K. Dhawan, Deputy General Manager, Marketing, I.O.L., Mr. M. Sengupta, General Manager, Personnel, H.C.L., Mr. S.K. Chowdhury, Manager, Training & Development, I.T.C. and Mr. P. Chowdhrury, Deputy Chief Personnel Manager, D.S. P.

Training in Non-Violence

A 3-day Youth Camp for "Training in Ahimsa" organised by the Jain Vishva Bharati Institute, Ladnun (Rajasthan), in collaboration with Gandhi Smrity Evam Darshan Samiti, Delhi, was recently inaugurated by Prof. K. L. Kamal, Member, Rajasthan Public Service Commission. Vice-Chancellor Prof. M. R. Gelra presided over the function. It was attended by 98 College and University students (Boys and Girls) coming from different parts of Rajasthan. Resource Persons like Dr. N. Radhakrishnan, New Delhi, Prof. N. K. Singh, Dr. B. M. Jain, Dr. A. K. Agrawal (all from University of Rajasthan) and Dr. Dharmendracharya of Arrah College (Bihar), addressed the participants. His Holiness Acharya Shri Tulsi showered his blessings. Yuvacharyashri, Muni Mahendra Kumar presented the keynote address, and various other Munis who are solely devoted to Ahimsa actively participated and directed the group discussions in collaboration with the Teaching Staff of the Institute. Group discussions on 21 different aspects of practising Ahimsa invoked great enthusiasm amongst the participants. The panel discussions on 13 aspects of Non- violence generated a feeling that it was ultimately resorting to non-violence through adoption of the high ideals of Anuvrata and Anekanta that the global problems of world peace and conflict between various nations on different issues would resolve.

PHDCCI-TTTI to Sign Agreement

The PHD Chamber of Commerce and Industry and the Technical Teachers Training Institute (TTTI), Chandigarh, propose to sign a memorandum of agreement to improve the quality of training and make available trained manpower. The most significant contribution which the two institutes could jointly make to the nation's industry, was to help make available suitably trained manpower to meet the growing needs of the country.

The two apex bodies in the northern region of the country would endeavour to enrich the quality of polytechnic education and training by encouraging and enabling greater interaction between industry, employers and technical mainstream.

In the proposed cooperation, PHDCCI would help identify the trades and professionals for which manpower was not available locally and also areas in which the industry found difficulty in operating with a low level of expertise. It would help TTTI by offering the services of technically qualified manpower for imparting training. It would also sponsor specific prototype research projects in various technical training institutes by providing hardware and industrial products at concessional rates.

The Training Institute would in turn undertake an industrywise study of the northern States to identify the linkage between the existence of a specific industry and the availability of all types of inputs including skilled manpower.

India, China Sign Pact on Education

India and China are reported to have signed a protocol on cooperation in the sphere of education in New Delhi recently. It was signed by the Education Secretary, Mr Anil Bordia, and the Vice-Chairman of the State Education Commission of China, Mr Liu Bin. The Minister of Human Resource Development, Mr Arjun Singh, and Chairman, State Education Commission of China, Mr Li Tieying, were present on the occasion.

The protocol envisages exchange of experience in education policy, planning and administration, basic education, adult literacy and higher education. Institutional linkages in social sciences, Chinese and Hindi language and literature, Buddhist studies and technical education have also been provided.

The number of scholarships is to be increased from the present 17 to 25 by 1993. Exchange of textbooks and audio-visual material and mutual recognition of degrees, diplomas and certificates are some of the other provisions in the protocol.

PG Course in Farming

Aligarh Muslim University proposes to start a postgraduate institute to provide education relating to agriculture. According to Prof. M. N. Farooqui, Vice-Chancellor, the institute would cost Rs. 3.5 crore and would be the first of its kind in the Central universities.

H said the university would teach about post-harvest technology and agriculture waste management.

He said the university had set up a Department of Electronic Projects at a cost of Rs 33 lakhs for machine translation of Urdu, Kashmiri and Sindhi languages.

He said the university had also received a governmental grant of Rs 23 lakhs for the development and upgradation of facilities in the Women's College.

He said the university court had approved the starting of M.A. classes in the Women's College from the next academic year.

NCRA Admissions

National Centre for Radio Astrophysics (NCRA)of the Tata Institute of Fundamental Research located at Pune invites applications for admission as research scholars to its graduate school. Selected students will work towards a Ph.D. degree in Astronomy and Astrophysics. Students will be selected on the basis of a written test and interviews to be held at the end of June/early July 1992. NCRA is one of the leading centres in the country for front line research in Radio Astronomy and Astrophysics. It operates the Ooty Radio Telescope and is currently building the Giant Metrewave Radio Teleescope (near Pune), which will be the world's largest radio telescope operating at low radio frequencies. Opportunities may also be available to work in related areas in infrared, optical, X-ray and gamma-ray astronomy at the Tata Institute of Fundamental Research, Bombay.

Research scholars will undergo graduate courses in Physics, Astronomy and related areas for two semesters starting on August 17, 1992. Students can register for a Ph.D. programme after successful completion of the course and project work. Outstanding candidates may be absorbed in the staff after their Ph.D. The graduate courses are being organised jointly with the Inter-University Centre for Astronomy and Astrophysics (IUCAA).

The prescribed qualification is a first class M.Sc. in physics or astronomy or Bachelor's or Master's degree in electronics/electrical/communication engineering with adequate background and strong interest in physics and mathematics. Candidates expecting their degrees by July 1992 may also apply. While a formal degree in astronomy/astrophysics is not necessary, a general interest in this field is highly desirable.

Research scholars will be paid a monthly honorarium of Rs. 2,200/-. This could be subsequently raised to Rs. 2,500/- based on their satisfactory performance. There is a book grant of Rs. 2,000/- per annum. Appointments are generally renewable upto 5 years.

Applications are to be made in prescribed forms which can be obtained by writing to Administrative Officer (II), NCRA (TIFR), Post Bag No. 3, Ganeshkhind, Pune, 411007, along with a 24x11cm self-addressed, stamped (Rs. 2.00) envelope. The last date for requesting forms is March 31, 1992, and completed applications should reach us by April 15, 1992. Candidates called for a written test and interview will be paid 1.33 times the rail fare each way by ordinary IInd class and a sum of Rs. 35/- as halting allowance for the day of the interview. The test and interviews for admission may be conducted jointly with IUCAA.

South Zone Elocution Contest

The Inter-University South Zone Elocution Contest was hosted by the Calicut University on 14-15 February, 1992. Sponsored by the Ministry of Welfare and the Association of Indian Universities to commemorate the Birth Centenary Celebrations of Bharat Ratna Dr B.R. Ambedkar, the contest was inaugurated by Dr. A. N. P. Ummerkutty, Vice-Chancellor, Calicut University. Dr. Ummerkutty highlighted the contributions of Dr Ambedkar in designing the Constitution of India and his concern for the down trodden.

Twenty eight contestants participated in the contest. The following students from various universities were recommended to participate in the Inter-University National Elocution Contest at Jamia Millia Islamia : (1) M. G. Poojitha, National Law School of India University, Bangalore; (2) R. Vidya, Avinashilingam Institute for Home Science & Higher Education for Women, Coimbatore; (3) V. Srinivasan, Bharathidasan University; (4) Thomas Koshy, University of Calicut, and (5) Nandan Nelivigi, National Law School of India University, Bangalore.

Shri K Murlidharan, Member of Parliament presented the valedictory address and gave away prizes to the winners.

Saraswathi Narayanan Awards

Prof S. Shanmugasundaram of the Madurai-Kamaraj University, Madurai, and Prof Raghavendra Gadagkar of the Indian Institute of Science, Bangalore, have been chosen for the Saraswathi Narayanan Award, instituted by the Saraswathi Narayanan Manivizha Trust for their outstanding contributions in the field of science.

The two scientists, Prof Shanmugasundaram, selected for his contributions to molecular biology of cyano bacteria, and Prof Gadagkar chosen for his work on sociobiology of insects, will share the award which carries a cash prize of Rs. 15,000 besides a citation and a medal.

News from Agricultural Universities

M. S. Randhawa Memorial Lecture

Dr. Donald L. Winklemann, Director General, International Maize and Wheat Improvement Centre (CIMMYT), Mexico, said that Dr. M. S. Randhawa was the Chief Architect of green revolution in India and played a significant role in introducing and popularising Mexican varieties of wheat in this country. He further said that Dr. Radhawa was committed to the cause of agricultural research and development and upliftment of the peasantry. Dr. Winklemann was delivering the fourth Dr. M.S. Randhawa Memorial Lecture at the Annual Convocation of the Punjab Agricultural University.

Dr. Winklemann said that International Agricultural Research (IAR) had been designed to have multi-country applications. And assuming for the moment a decision maker, concerned with efficiency that intent must have influenced the decision of how much to invest in the research. He said that much research had a multi-country impact fortuitously which resulted from one place turn out to be applicable elsewhere. In economic terms, there were clear efficiency advantages to IAR arising from economies of scale. He further said that Cardinal International Agricultural Research (CIAR) had seven aspects viz. collating and disseminating scientific information, germplasm safekeeping, germplasm improvement, resource management and husbandry, specialized training, methodologies and assessing global agricultural needs. Dr. Winklemann said that while looking at the International Agricultural Research, increasing income and population will add to the global demand for foodstuffs, while limited natural resources and a heightened concern for their protection would constrain the growth in food supply.

Highlighting the role of science in agriculture he said that it would also play a crucial role in shaping the balance among the various suppliers of agricultural research products. He said that science made it possible to extend proprietry interests at reasonable costs e.g. through genetic markers, the role of the private sector can be expected to expand. He said that through science it became notably less expensive to hybridize wheat. The implications for privately financed wheat breeding programs were obvious, he added.

Dr. Winklemann said that the balance between the national and international research and in its funding by private and public agencies would be influenced by attitudes towards the role of the public and private sectors, by the evolution of science, and by the development of institutions in support of markets for the products of research. He said that the world picture at present seemed to be that of uncertainty. The democracies were under great pressure because of lack of clear cut goals, unemployment, high pressure shortages, etc. He said that there was a silver lining in case of India, which was a class apart and had ushered in an era of green revolution, wiping out the shortages in the country. For this the credit went to scientists, agricultural workers and the farmers alike.

Dr.Khem Singh Gill, Vice-Chancellor of the PAU, in his Convocation Report highlighted teaching, research and extension activities of the University. He said that the PAU faculty was known throughout the country and even abroad for outstanding contributions in the field of teaching, research and extension education for which it had won numerous national and international awards, and a large number of scientists and students of this University were selected for prestigious awards and honours. The Vice-Chancellor said that the research work at the University had been streamlined and now the main emphasis on research was focussed on sustainability of agriculture, proper management of land and water resources, improving efficiency of various inputs and reducing the cost of cultivation so as to maximize economic returns to the farmers. Dr. Gill said that crop improvement research had been reoriented for boosting the yield potentials by embarking on hybrid breeding programmes in various crops like rice, maize, pearl millet, cotton, sunflower, rapeseed and mustard, pigeonpea; in vegetable crops such as tomato, brinjal, muskmelon and chillies, and forage crops such as sorghum, napier bajra hybrids. He revealed that the progress made by the University in hybrid development particularly in tomato, sunflower, mustard and rice had been appreciated at national level. Dr. Gill said that one of the major thrust areas included integration of molecular genetical techniques of biotechnology and tissue culture in crop improvement.

Mr. Surendra Nath, Governor of Punjab and Chancellor of the University, who presided, conferred upon Dr. Donald L. Winklemann the degree of Doctor of Science (Honoris Causa) for his outstanding contributions in agricultural research.

Two hundred and sixty six degrees including Ph.D., M.Sc., M.Sc. Hons., M.B.A., M.Tech., M.V.Sc., and M.J. apart from 17 gold medals and 2 silver medals were awarded on this occasion.

News from UGC

Countrywide Classroom Programme

Between 25th March to 31st March, 1992 the following schedule of telecast on higher education through INSAT-1D under the auspices of the University Grants Commission will be observed. The programme is presented in two sets of one hour duration each every day from 1.00 p.m. to 2.00 p.m. and 4.00 p.m. to 5.00 p.m. The programme is available on the TV Network throughout the country.

Ist Transmission

1.00 p.m. to 2.00 p.m.

25.3.92

"An Introduction to Piston Design & Manufacturing"

"Forts of Deccan-I: Daulatabad"

"Bat Conservation"

26.3.92

"Electronics-II: What is a Transister"
"Self Development-II"
"Indian Literary Sensibility"

27.3.92

"Parabola-II"
"Berlin and its Status"

28.3.92

"The Hands that Creates-II: Elements of Art"
"Odissi: The Art of Expression-I"
"The Week Ahead"

29.3.92

No Telecast

30.3.92

"Electromagnetic Induction"
"Management-XII: Bureaucracy"
"Saga of Silk-III: Process of Silk"

31.3.92

"Flocculation"
"The Pursuit"
"Your's Sincerely"

IInd Transmission

4.00 p.m. to 5.00 p.m.

25.3.92

N.D.T.-II: Dye Penetrant & Magnetic"
"Historical Excavations: Pumpuhar"
"Silicosis: An Industrial Disease"

26.3.92

"Technological Universities: Nigerian Experience"
"Journey to the end of the Earth"
"Indian Poetics-I: Languages and Poetic language"

27.3.92

"A Date with Maths-I"
"Hemostasis"
"Desertification and its control"

28.3.92

"Science of Musical instrument-III: Nad Tantu"
"Destiny's People: Stories of South Carolina"
"The Week Ahead"

29.3.92

No Telecast

30.3.93

"Properties of Fluids-II: Surface Tension and Capillarity"
"Management -VIII: Work Study"
"High Productive Ber Cultivation"

31.3.92

"Flocculation"
"Yours Sincerely"
"The Pursuit"

Sports News

Vizzy Trophy Cricket Tournament

The Vizzy Trophy Cricket Tournament which is organized by the AIU in collaboration with the BCCI, was hosted by the M.S. University of Baroda, from 31st January, 1992 to 7th February, 1992. Only 4 zonal teams qualify for this tournament. The semi-finals were played between South Zone & East Zone and West Zone & North Zone.

The final was played between the South Zone and the West Zone from 4th February to 7th February 1992. The West Zone won the trophy by 137 Runs. The scores were : West Zone : 1st Inning - 396 Runs for 10 in 110 overs; 2nd Inning - 234 Runs for 10 in 66.4 overs. South Zone : 1st Inning - 278 Runs for 10 Wkts in 78.2 overs; 2nd Inning - 215 Runs for 10 Wkts in 60 overs.

The Vice-Chancellor of the host University, Prof. V. C. Shah, awarded the trophy to the captain of winning team. The Championship trophy has been instituted by the BCCI.

TATA INSTITUTE OF SOCIAL SCIENCES

(A Deemed University)

Post Box No.8313, Deonar, Bombay-400088

announces

FULL-TIME POST GRADUATE CERTIFICATE PROGRAMME IN SOCIAL WELFARE ADMINISTRATION, 1992

One Semester (5 months) full-time post graduate programme in Social Welfare Administration. Eligibility: **The Candidate should have a Bachelor's Degree from any faculty of a recognised University with a minimum of 3 years experience in the field of social welfare/development programmes. Medium of instruction is English.**

BROCHURE AND APPLICATION FORM: Obtainable in PERSON on payment of Rs.20/- in cash at the Institute's cash counter from Monday to Friday 10.30 a.m. to 2.00 p.m. and on Saturday 10.30 a.m. to 11.30 a.m. For obtaining the forms by POST write to the Superintendent (EMS), together with a demand draft of Rs.20/- drawn in favour of the Institute. The cover should be superscribed with 'Request for Application form for the Cert. in SWA'.

LAST DATES: For request for application form by **POST**; May 16,1992 and in **PERSON** : May 26,1992. For receipt of completed application form by post and in person: May 26, 1992.

SPECIAL PROVISION FOR SCHEDULED CASTES/TRIBES CANDIDATES: Reservation of seats for SC is 15% and ST is $7\frac{1}{2}$%. Application forms will be supplied free on sending/handing over an attested copy of Caste/Tribe Certificate.

HOSTELS: Limited number of seats available for men and women student.

COURSE DURATION: June 17,1992 to October 20,1992.

Bombay
February 26,1992

Dr. S.K.Bandyopadhyay
REGISTRAR

Important Contribution

Jandhyala B. G. Tilak*

Azad, J.L. Graduate Unemployment in India : An Analytical Study of its Incidence, Nature and Causation. New Delhi, Association of Indian Universities, 1991. pp. 154, Price: Rs. 150 (paperback).

> ".... the quality of a society and of its culture will depend on the status of its unemployed".
>
> —*Ivan Illich.*

Graduate or educated unemployment, by its very definition, is closely related to the educational system. Rather educational system and the labour market in a country are closely related. If there is under-investment in education, the size of the educated labour-force would be small and the economy might face shortage of skilled manpower. On the other hand, if the educational system produces numbers more than required, there would be glut in the labour market resulting in unemployment of the educated. Lack of coordination between educational planning and economic planning in general and employment planning in particular, thus, could result in educated unemployment. While thus it is clear that education and employment/unemployment are related, the way they are related is not very clear. Ironically while education-employment relations are not clear, education-unemployment relations are somewhat strong. In economies characterised by massive unemployment, education may reduce present level of unemployment, but not necessarily reduce the problem of unemployment in future. Education may simply transform the nature of unemployed, but not necessarily the size of the problem of unemployment. Education may lead to increase in unemployment in the society at large, which in turn may result in higher demand for education, producing what is familiarly known as a vicious circle. Further, whether education increases unemployment or reduces it is also a matter of debate. The two theoretical probabilities in this context are as follows :

a) The more education one receives, the higher the dispersion (variances) of wage offers one faces and thus the longer one is likely to search.

b) The higher the level of education one receives, the higher the opportunity cost (in terms of foregone earnings), while unemployed and thus the shorter the search is likely to be.

The problem of educated unemployment is a part of overall unemployment. But it constitutes a more serious and menacing problem, requiring specific attention of the policy-makers and planners. After all, the educated unemployed, "is a dangerous person. He is vocal; he has influence; he nurses a sense of personal injury and if the grievance is long continued and the numbers involved are large, as in India, the situation is decidedly explosive, and will be a constant threat to the security and stability of the State. The unemployed persons belonging to this category are not 'dumb-driven cattle', but intelligent people, will not accept an unenviable position lying down". Further as the supply of educated labour force can be controlled to some extent through public policy, educated unemployment should be treated separately.

Hence a separate identification and detailed analysis of the problems of educated unemployed is very important. But as the Committee of Experts on Unemployment Estimates (1970) found, the attention given so far to measure the trends in the number and composition of the educated unemployed has been rather inadequate. As a result, "although India has had Five Year Plans and an enormous expansion of statistical and research activities, the data base for employment and manpower planning continues to be rather weak". A few major attempts have been made to study the problem of educated unemployment in India. Azad's *Graduate Unemployment in India* forms one of the latest attempts on this problem.

Traditionally educated unemployment is believed to be the result of a mismatch between skill requirement of the economy and skill supply of the educational system. On the other hand, the dualis-

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tic theories point out that employment in the modern sector depends largely on capital investment and technology, not on the education of the workers. The radical theorists take an extreme view and argue that radioactivity as well as employment/unemployment are rooted in social relations and education has no role at all in this framework. The radical theorists further argue that education at best screens and certifies the people of their varying abilities. Education simply confers "credentials" that employers can use to select workers and to determine wages and salaries.

In India, as in many other developing economies, it is difficult to point out exactly which of these three models has been working. All the three theories find partial support in Indian experience. Education as managed and imparted is believed to be "largely irrelevant and unrealistic", resulting in unemployment of the educated. This lends support to the mis-match hypothesis. The slow rate of economic growth cannot generate substantial employment, particularly when the economy is characterised by traditional technology and low levels of capital, suggesting that dualistic theories do operate in India. At the same time employment in India is also significantly influenced by social relations — caste, religion, sex, family background, etc. Further, the "escalation of qualifications" cannot but support the screening hypothesis. Azad starts with a very brief review of these and other theories of education and labour market, but does not relate his later empirical analysis with any of these theories.

Azad's empirical work is confined to manpower educated in social sciences and humanities. It is based on three sets of data: the 1981 census data on 2.5 million personnel, compiled by the Council of Scientific and Industrial Research, the DGET data based on the records of the employment exchanges, and primary data collected through mail-in questionnaires by the researcher on 364 graduates from ten universities, intensive investigation confining to the States of Gujarat and Maharashtra on about 1000 students (in Sardar Patel and Poona universities) and 65 entrepreneurs in Poona and V. V. Nagar. After briefly describing the trends in overall educated unemployment (Chapter 2), the author concentrates on manpower with degrees in social sciences and humanities. With the help of DGET data, the author presents in Chapter 3 a detailed account of the status of the manpower—employed and unemployed by field of specialization, level of higher education (first degree, postgraduate degree, research degree-M.Phil and Ph.D.), etc., employed people by income categories and by place of employment. Micro level data are analysed to discuss factors responsible for demand for higher education (reasons for pursuing higher education), a particular type of higher education, the match or mismatch of the subject areas with the career choices (and careers), and other related details on perceptions of the educated people and employers on questions such as sources of information of jobs, relative importance of qualifications in employment selection, waiting period, and earnings by educational levels. Opinions of the people are also analysed on the possible impact of delinking of degrees from jobs on demand for higher education, on the needed measures to eradicate graduate unemployment, etc. Besides, Azad also describes briefly some of the schemes meant for the unemployed.

A few major aspects that one may expect in a study on graduate unemployment are missing. But for frequency distribution, the 'rate' of unemployment is not measured. Employment/unemployment by gender categories is yet another aspect. In a more analytical framework, the author could have examined several phenomena including some hypotheses on escalation of qualifications, 'deviation' of higher education, the 'bumping down' mechanism, 'credentialism' mechanism, the inverted U-shaped curve on education-unemployment relationship, etc.

Despite these omissions, the empirical richness of the study is very significant. Voluminous data are analysed and are cross-tabulated and/or frequency distributions are presented in a simple and clear style. Unemployment of the educated has been a problem for many decades in India. The problem has been engaging the minds of all from a few years after the very establishment of the first three universities in India in 1857. In this sense, even though many of the issues discussed in this book are not unfamiliar, the empirical evidence is new, and this is an important contribution of the author.

Attention Publishers!

Publishers are welcome to submit their latest publications, other than Textbooks, for review in the *University News*. Two copies are required to be submitted; one is sent out to the reviewer while the other is retained in the office for reference and record. All reviews published in *University News* are signed.

CALENDAR OF EVENTS

Proposed Date of the Event	Title	Objective	Name of the Organising Department	Name of the Organising Secretary/ Officer to be Contacted
August 11-16, 1992	8th World Congress for Rural Sociology	Theme : Rural Society in the Changing World Order	International Rural Sociology Association, USA	The Pennsylvania State University, 306, Agricultural Administration Buliding, University Park, Pennsylvania - 16802
August 16-19, 1992	55th Annual Meeting of the Rural Sociological Society	Theme : Rurality and the Global Environment	Rural Sociological Society, USA	-do-
August 26-28, 1992	Second International ISKO Conference on Cognitive Paradigms in Knowledge Organisation	To provide a forum for scholars working in the field of knowledge organisation	Madras Library Association in collaboration with Sarada Ranganathan Endowment for Library Science and University of Madras	Mr. S. N. Kumar Conference Secretariat, 5, Sivaganga Road, Madras-600 034
October 26-31, 1992	Third IAU Mid-Term Conference to be held at Alexandria, Egypt	Theme:Adaptation of University Management Structures and Strategies for New Requirement	International Association of Universities (IAU), France	Dr Franz Eberhard, Secretary General, International Association of Universities, 1, rue Miollis, 75732 Paris Cedex 15 France
November 9-13, 1992	16th World Conference on Distance Education for the Twenty-First Century	To give a view of the aspects of development in Distance Education in the Twenty-First Century	International Council for Distance Education, in cooperation with Sukhothai Thammathirat Open University (STOU), Thailand	Mr. Bruce Scriven, Program Chair – 16th World Conference of ICDE, Queensland University of Technology, Locked Bag No. 2, Red Hill Queensland 4059, Australia
November 25-30, 1992	IAEWP 6th World Congress	The Congress will deal with (1) Socail Welfare, (2) Health Care, and (3) Educational Needs	International Association of Educators for World Peace (IAEWP) in co-operation with Social Action Movement, Malta	Dr. Suryanath Prasad, International Co-ordinator, IAEWP 6th World Congress & World President, IAEWP, Janta College of Education, P.O. Box 113, Chandrapur-442 401 Maharashtra, India

AIU Library & Documentation Services

One of the important functions of the Association of Indian Universities is to act as a clearing house of information on higher education in the country. Towards this end the AIU Library is engaged in collection building and developing instruments for the dissemination of research information. Over the years a valuable collection of books and documents on different aspects of higher education has been acquired.

The library has also developed Bibliography of Doctoral Dissertations as an effective tool in the dissemination of research information. Retrospective bibliographies covering the period 1857-1970 and 1970-75 were the first to appear. Effective 1975, however, the bibliography is issued annually in two volumes. One volume deals with Natural and Applied Sciences while the other records doctoral degrees awarded in Social Sciences and the Humanities. In addition to the normal bibliographical details like the name of the Research Scholar, the title of the thesis, years of registration for and award of the degree, and the name of the University accepting the thesis for award of a doctoral degree, the bibliography also gives name and complete address of the supervising teacher and an availability note that seeks to inform whether a copy of the dissertation is available for consultation and use in the University Library/Department or Registrar's Office.

The columns 'Theses of the Month' and 'Research in Progress' are intended to cut out the time lag between the receipt of information and its inclusion in the bibliography. Such universities as are not sending us regular information in respect of doctoral theses accepted and research scholars enrolled are welcome to make use of these columns.

The library also receives about a 100 periodical titles on higher education. All these are indexed regularly and a select list appears every month as 'Current Documentation in Education'. Similarly the column 'Education News Index' reports editorials and articles on higher education published in over 20 newspapers that are received in the library from all over the country.

The Library is open from 9.00 a.m. to 5.30 p.m. Monday through Friday.

CURRENT DOCUMENTATION IN EDUCATION

A list of select articles culled from periodicals received in AIU Library during February 1992

EDUCATIONAL PHILOSOPHY

Higginson, James Henry. Profiles of educators: Michael Ernest Sadler (1861-1943). **Prospects** 20(4), 1990, 555-65.

Jacob, Plamthodathil S. Relations among culture, philosophy and education in India. **New Frontiers in Edn** 21(4), 1991, 591-7.

Soetard, Michel. Profiles of educators: Jean-Jacques Rousseau (1712-78). **Prospects** 21(1), 1991, 125-35.

EDUCATIONAL PSYCHOLOGY

Dart, Barry C and Clarke, John A. Helping students become better learners: A case study in teacher education. **Hr Edn** 22(3), 1991, 317-35.

Entwistle, N J and Entwistle, Abigail. Contrasting forms of understanding for degree examinations: The student experience and its implications. **Hr Edn** 22(3), 1991, 205-27.

Veenman, Marcel V J and Elshout, Jan J. Intellectual ability and working method as predictors of novice learning. **Learning and Instruction** 1(4), 1991, 303-17.

Voss, James F and Means, Mary L. Learning to reason via instruction in argumentation. **Learning and Instruction** 1(4), 1991, 337-50.

EDUCATIONAL SOCIOLOGY

Wagner-Winterhager, Luise. Youth research as a diagnosis of the times. **Education** 44, 1991, 59-74.

EDUCATIONAL PLANNING

Benavides, Luis G and Arredondo, Vicente. Towards a new concept and a practical improvement of educational planning. **Prospects** 21(1), 1991, 97-107.

Bustos, Fabio M. Educational planning and administration in Latin America: From optimism to uncertainty. **Prospects** 21(1), 1991, 43-50.

Ming, Cheng Kai. Commonality among diversity: A review of planning and administration of education in Asia. **Prospects** 21(1), 1991, 69-82.

EDUCATIONAL ADMINISTRATION

D'Souza, Victor S. Restructuring higher education in India: The relevance of the American community college. **New Frontiers in Edn** 21(4), 1991, 549-90.

Daniel, Larry G and others. Academic misconduct among teacher education students: A descriptive-correlational study. **Research in Hr Edn** 32(6), 1991, 703-24.

James, D E. Merging educational groups: Personal reflections. **Hr Edn Q** 45(3), 1991, 254-66.

Swinnerton-Dyer, Peter. Policy on higher education and research: The Rede lecture 1991. **Hr Edn Q** 45(3), 1991, 204-18.

CURRICULUM

Simonen, Mari and others. Population education in the promotion of development. **Prospects** 20(4), 1990, 429-37.

TEACHERS & TEACHING

Aikara, Jacob. Role of teacher's organisations. **New Frontiers in Edn** 21(4), 1991, 598-607.

EDUCATIONAL RESEARCH

Aitkin, Don. How research came to dominate higher education and what ought to be done about it. **Oxford Rev of Edn** 17(3), 1991, 235-47.

Fincher, Cameron. Possibilities and actualities of disciplined inquiry. **Research in Hr Edn** 32(6), 1991, 625-50.

Moghe, Prakash. Innovative practices, divergent thinking and research: Some points to pause and ponder. **Progress of Edn** 66(6), 1992, 142-4.

EDUCATIONAL EVALUATION

Aiken, Lewis R. Detecting, understanding, and controlling for cheating on tests. **Research in Hr Edn** 32(6), 1991, 725-36.

Barrett, L R. In praise of rehash. **Hr Edn Rev** 24(1), 1991, 57-60.

Lang, Daniel W and Lopers-Sweetman, Rosanne. Role of statements of institutional purpose. **Research in Hr Edn** 32(6), 1991, 599-624.

ECONOMICS OF EDUCATION

Easton, Peter and Klees, Steven. Education and the economy: Considering alternative perspectives. **Prospects** 20(4), 1990, 413-28.

James, Estelle. Private higher education: The Philippines as a prototype. **Hr Edn** 21(2), 1991, 189-206.

Khan, Shahrukh R. Financing higher education in Pakistan. **Hr Edn** 21(2), 1991, 207-22.

Woodhall, Maureen. Sharing the costs of higher education: An international analysis. **Ednl Record** 72(4), 1991, 27-32.

ADULT EDUCATION

Carceles, Gabriel. Is literacy for all by the year 2000: A feasible target? **Prospects** 20(4), 1990, 449-59.

Haddad, Wadi D. Education for all: The role of international aid. **Prospects** 20(4), 1990, 525-36.

Mayor, Federico. 'Education for all': A challenge for the year 2000. **Prospects** 20(4), 1990, 441-8.

Sasaoka, Taichi. Regional co-operation for literacy in Asia and the Pacific. **Prospects** 20(4), 1990, 481-7.

Stoecker, Judith L. Factors influencing the decision to return to graduate school for professional students. **Research in Hr Edn** 32(6), 1991, 689-701.

DISTANCE EDUCATION

Sahoo, P K. Theorizing distance education: Certain observations. **New Frontiers in Edn** 21(4), 1991, 608-17.

COMPARATIVE EDUCATION & COUNTRY STUDIES

Fulton, Oliver. Slouching towards a mass system: Society, government and institutions in the United Kingdom. **Hr Edn** 21(4), 1991, 589-605.

Goedegebuure, Leo C J and Westerheijden, Don F. Changing balances in Dutch higher education. **Hr Edn** 21(4), 1991, 495-520.

Gruber, Karl Heinz. Policy change in Austrian higher education: Indications of a new approach. **Hr Edn** 21(4), 1991, 607-19.

Jones, Glen A. Modest modifications and structural stability: Higher education in Ontario. **Hr Edn** 21(4), 1991, 573-87.

Kivinen, Osmo and Rinne, Risto. Mapping the field of stratification in higher education: The Finnish experience. **Hr Edn** 21(4), 1991, 521-49.

Lynn Meek, V. Transformation of Australian higher education from binary to unitary system. **Hr Edn** 21(4), 1991, 461-94.

Skoldberg, Kaj. Strategic change in Swedish higher education. **Hr Edn** 21(4), 1991, 551-72.

THESES OF THE MONTH

A list of Doctoral Theses accepted by Indian Universities

BIOLOGICAL SCIENCES

Anthropology

1. Panwar, Chander Lekha. **Cytogenetic profiles in aberrant human reproductive performances.** H S Gour. Prof R S Bali, Department of Anthropology, Dr Hari Singh Gour Vishwavidyalaya, Sagar.

2. Ramesh, N R. **A study on geomorphology, quaternary geology and associated cultural remains of West Tripura District, Tripura.** Gauhati. Prof T C Sharma, Retd, Gauhati University, Guwahati.

Environmental Sciences

1. Chandrashekara, U M. **Studies on the gap phase dynamics in a humid tropical forest.** JNU. Prof P S Ramakrishnan.

2. Murthy, S D S. **Studies on bioenergetic processes of cyanobacterial analysis of the effect of selected heavy metal ions on energy linked processes.** JNU. Prof P Mohanty.

3. Prasad, Bably. **Studies on characterisation and abatement of coke-oven liquid effluents.** ISM. Dr Gurdeep Singh, Asstt Prof, Centre of Mine Environment, Indian School of Mines, Dhanbad.

Biology

1. Behla Singh, J. **The behaviour of the Indian false vampire bats,** Megaderme lyra **Geoffroy 1810: Field ethological studies.** Madurai.

2. Gopalakrishnan, A. **Studies on some aspects of the reproductive physiology of the female grey mullet,** Mugil cephalus L. CUST. Dr P Parameswaran Pillai, Principal Scientist, Central Marine Fisheries Research Institute, Kochi.

3. Jeyaseelan, R. **Studies on nucleic acids and gene expression in mammalian cells: Characterization of DNA binding proteins.** Madurai.

4. Laxmi Latha, P. **Studies on the haemolymph of** Penaeus indicus **H Milne Edwards.** CUST. Dr A Laxmi Narayana, Scientist, C I B A.

5. Mahalingam, S. **Studies on the silk protein gene and plasma protein bio-synthesis in the silkworm,** Bombyx mori. Madurai.

6. Mathew, Saji Susan. **Some observations on the ecology and biochemical aspects of the seaweeds of Kerala Coast.** CUST. Dr V S K Chennubhotla, Principal Scientist, Central Marine Fisheries Research Institute, Kochi.

7. Ramana Reddy, Chadeve. **Some biological aspects of Sillago Sihama from Karwar waters.** Karnatak. Dr B Neelakantan, Prof and Chairman, Department of Marine Biology, Karnatak University, Kodibag, Karwar.

8. Ranga Rao, Vinjamuri. **Some studies on the dynamics and physical features of the Godavari Estuary, East Coast of India.** Andhra.

9. Sahu, Debendra Kumar. **Effects of selected trace metals on the green mussel** Pena viridis **Linnaeus from Gopalpur sea water, Bay of Bengal.** Berhampur. Dr B K Sahu, Reader, Department of Marine Science, Berhampur University, Berhampur.

10. Sakthivel, M. **Haematological and histological responses of** Cyprinus carpio **to the quality of water, food and space under laboratory conditions.** Madurai.

11. Sethuraman, B Nagaraja. **Studies in the effects of caffeine and thesphylline in the silk-worm, Bombyx mori: A bioenergetics approach.** Madurai.

Biochemistry

1. Afshan Naheed. **Studies on the effect of phenylhydrazine on red blood cell membrane.** AMU. Prof M Saleemuddin, Department of Biochemistry, Aligarh Muslim University, Aligarh.

2. Ishaya Haruna Nock. **Immune cell dynamics in leishmaniasis and modulation by vasoactive intestinal peptide.** JNU. Dr Jayshree Devi Sharma.

3. Mehta, Anuradha. **Studies on oxalate decarboxylase from** Collybia velutipes. JNU. Prof Asis Dutta.

4. Shabana Islam. **Studies on the mutagenic and carcinogenic behaviour of certain synthetic steroids.** AMU. Dr Masood Ahmad, Lecturer, Department of Biochemistry, Aligarh Muslim University, Aligarh.

5. Shukla, Dev Ratna. **Drug membrane interactions: A conformational analysis of a tachykinins.** JNU. Dr Sudha Mahajan, Assoc Prof, School of Life Sciences, Jawaharlal Nehru University, New Delhi.

Microbiology

1. Gawande, Ajay Govindrao. **Microbial transformation of solasodine.** Nagpur. Dr K V Shankhapal, Department of Microbiology, Nagpur University, Nagpur and Dr G B Shinde, Department of Microbiology, Nagpur University, Nagpur.

Botany

1. Bandyopadhyay, Subir. **A taxonomic study on the genus Bauhinia Linn SL (Leguminosae) in India.** Calcutta.

2. Banik, Amalansusekhar. **Study in alkaloid production in** Solanum **with aim to its improvement.** Calcutta.

3. Bennet, R. **Systematic and comparative value of morphohistogenetic features of fruits in family Papilionaceae.** Patel. Prof Y S Dave, Reader, Department of Biosciences, Sardar Patel University, Vallabh Vidyanagar.

4. Nanda, Diptirani. **Effect of solid waste from a chloralkali factory on productivity of rice plant.** Berhampur. Dr B N Mishra, Prof, Department of Botany, Berhampur University, Berhampur.

5. Sharma Barthakur, Kaveri. **In vitro growth and chlorophyll development in etiolated soybean hypocotyls.** Gauhati. Dr C M Sarma, Prof, Department of Botany, Gauhati University, Guwahati.

6. Sood, Neelma. **Karyomorphological observations and biochemical variability in** Sorghum (L) **Moench.** PAU.

7. Tiyagi, Sartaj Ali. **Pathogenicity and control of Meloidogyne incognita and** Rotylenchulus reniformis **in relation to** Macrophomina phaseolina **on green gram and** Fusarium oxysporum **f sp** ciceri **on chickpea.** AMU. Dr Mohammad Mashkoor Ajam, Reader, Department of Botany, Aligarh Muslim University, Aligarh.

Agriculture

1. Chakrabarti, Asish. **Effect of slow release nitrogenous fertilisers on rice and wheat in relation to their release pattern.** Calcutta.

2. Mushtaq Ahmad. **Biological control of bacterial blight of rice,** Xanthomonas oryzae pv oryzae. PAU.

3. Pal, Debasish. **Salt and water dynamics in soil under different irrigation practices.** Calcutta.

4. Rathore, Pankaj Kumar. **Studies on gene action, response to selection and gxe interaction in pea,** Pisum sativum L. H P Krishi. Dr V P Gupta, Department of Plant Breeding and Genetics, College of Agriculture, Palampur.

5. Singh, Hirday Pal. **Genetics of resistance to** Phytophthora infestans **Debary in tomato.** PAU.

Zoology

1. Bhaware, Ravindra Narayanrao. **Studies on the cestode parasites of marine fishes from West Coast of India.** Marathwada. Dr G B Shinde, Prof, Department of Zoology, Marathwada University, Aurangabad.

2. Bhoyar, Ramrao Vithobaji. **Studies on fate of intestinal parasites during aerobic and anaerobic composting.** Nagpur. Dr K P Krishnamoorthi, National Environmental Engineering Research Institute, Nagpur.

3. Dange, Milind. **Chromosome studies on some polyphagous Coleoptera from India with special emphasis on Haplogastra.** Kurukshetra.

4. Das, Balendra Kumar. **Studies on certain ultra-surface structures and ecobiology of rheophilic fish.** Gauhati. Dr U C Goswami, Reader, Department of Zoology, Gauhati University, Guwahati.

5. Jagota, Anita. **Studies on the neuro-physiology of the identified serotoninergic neurons of cockroach,** Periplaneta americana **frontal ganglion.** JNU. Prof M Habibulla, Head, School of Life Sciences, Jawaharlal Nehru University, New Delhi.

6. Khan, Tahseen Shaistha. **Studies on the hypothalamo-hypophysial neuro-secretory system and reproduction in a fresh water teleost fish,** Notopterus notopterus **Pallas.** H S Gour. Dr V S Bais, Department of Zoology, Dr Hari Singh Gour Vishwavidyalaya, Sagar.

7. Masroor Fatima. **Studies on the biology of a grey mullet,** Rhinomugil **collected from River Jammuna.** AMU. Dr Asif Ali Khan, Reader, Department of Zoology, Aligarh Muslim University, Aligarh.

8. Raval, Pragna Jasvantrai. **Histopathological and biochemical studies in rabbits under aflatoxin induced toxaemia.** Bhavnagar. Dr R J Verma, Lecturer, Department of Life Sciences, Bhavnagar University, Bhavnagar.

9. Ray, Debasish. **Studies on some aspects of pathophysiology of experimental malaria.** Calcutta.

10. Siddiqui, Mohammad Iqbal. **Physiology of the haemocytes in certain insects.** AMU. Dr Mumtaz A Khan, Prof, Department of Zoology, Aligarh Muslim University, Aligarh.

11. Singh, Chandra Prakash. **The effect of effluents released by the sugar factory and distillery of Narkatiaganj on fish population of River Ban Ganga harbour.** Bihar. Dr Safal Kumar Mishra, Department of Zoology, T P Verma College, Narkatiaganj, West

Champaran.

12. Varma, B Mahendra. **Biochemical studies in mouse following ultrasound irradiation.** Krishnadevaraya. Dr R P Surendra Kumar, Department of Zoology, Sri Krishnadevaraya University College, Anantapur.

13. Venkateswamy, K. **Neurochemical studies during the development of behavioural tolerance to organophosphate toxicity in albino rats.** Venkateswara. Dr P Muralimohan, Reader, Department of Zoology, Sri Venkateswara University College, Tirupati.

Medical Sciences

1. Ali, Mushir Muzaffer. **Tissue culture studies on some medicinal plants.** H S Gour. Prof K C Verma, Prof (Retd), B/9 Gour Nagar, Sagar and Dr P C Maiti, H/24 Saket, New Delhi.

2. Chaudhuri, Srabani. **Studies on extra-genital effects of natural and synthetic female sex steroids, particularly gestagens.** Calcutta.

3. De, Susanta Kumar. **Studies on L-asparaginase in** Vibrio **species.** Calcutta.

4. Jha, Arvind Kumar. **Phytochemical and pharmacological investigation of some indigenous medicinal plants.** H S Gour. Dr Pradeep Mishra, Department of Pharmaceutical Science, Dr Hari Singh Gour Vishwavidyalaya, Sagar.

5. Ray, Mala. **Some aspects of host parasite interaction in experimental** Entamoeba histolytica **infection.** Calcutta.

6. Saksena, Sachin. **Investigation of the seeds of** Mucuna pruriens **Baker.** H S Gour. Prof V K Dixit, Head, Department of Pharmaceutical Sciences, Dr Hari Singh Gour Vishwavidyalaya, Sagar.

7. Sivam Sabhesan, D. **Neuropsychiatric sequelae in head injury.** Madurai.

Animal Husbandry

1. Mandal, Probodh Chandra. **Experimental aspergillosis in goats.** PAU.

EDUCATION NEWS INDEX

A list of select articles and editorials on education from newspapers received in the AIU Library during February 1992

EDUCATIONAL PHILOSOPHY

Radha Kumari. Achieving excellence at all levels. **The Hindu** 18.2.92.

Sampooran Singh. Do we teach or cheat? **The Tribune** 9.2.92.

Warrier, A S. Learning that transcends the limits of time. **The Hindu** 11.2.92.

EDUCATIONAL PSYCHOLOGY

Costa, Lena. School for rebels: Street children are learning that knowledge is power and fun. **Indian Express** 22.2.92.

Govinda Rao, G K. Why attend classes? **Deccan Herald** 7.2.92.

EDUCATIONAL SOCIOLOGY

JOB QUOTA in court (Editorial). **Patriot** 3.2.92.

Pinto S J, Ambrose. Shift from elitism. **Deccan Herald** 28.2.92.

Sahay, S. In Mandal's mirror. **The Hindustan Times** 7.2.92.

Shah, A M. Reservation: For whose benefit? **The Hindustan Times** 3.2.92.

EDUCATIONAL POLICY & PLANNING

Mishra, S K. Charavaha Vidyalaya: A paradox. **Patriot** 18.2.92.

Ramiah, P. Education: Karnataka experiment. **The Hindu** 8.2.92.

Ramoo, S K. Education with a difference. **The Hindu** 9.2.92.

Roy, Ash Narain. Navodaya Vidyalayas: Setting the pace of excellence. **The Hindustan Times** 3.2.92.

EDUCATIONAL ADMINISTRATION

Agrawala, S K. Changing profiles of Vice-Chancellors. **The Hindustan Times** 6.2.92.

Amrik Singh. Tragedy of Delhi University. **The Hindustan Times** 19.2.92.

CUTTING VARSITY subsidies (Editorial). **Indian Express** 17.2.92.

Das, Nilima. Education: First class. **The Pioneer** 2.2.92.

Datt, Ruddar. UGC amendment bill: Refusing to learn from past mistakes. **Indian Express** 10.2.92.

Ghosh, Indranil. Blinkered view of the battlefield. **The Economic Times** 1.2.92.

Gopinath, E R. UPSC exams and Tamilnadu. **Patriot** 20.2.92.

Joshi, K C. UGC amendment bill: Curtailing the autonomy of the varsities. **Indian Express** 10.2.92.

Mathur, V S. Crisis in education. **The Tribune** 19.2.92.

Narayanan, Chitra. Luxury of being a society in Delhi. **The Economic Times** 9.2.92.

Robert, M. Implications of the autonomous system. **The Hindu** 11.2.92.

UGC AND the academia (Editorial). **The Tribune** 9.2.92.

Venkatasubramanian, K. UGC amendment bill:Impending crisis of varsities. **Indian Express** 8.2.92.

Verma, P C. Education: Threat from within. **Indian Express** 8.2.92.

VIEW OF interviews (Editorial). **The Tribune** 10.2.92.

VITIATED CAMPUS (Editorial). **Deccan Herald** 26.2.92.

EDUCATION & POLITICS

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(a) 1st class or a minimum CGPA 6.5 of Master's degree in the relevant area of Science/Humanities and Social Sciences or equivalent.

(b) Valid GATE score of 70 percentile or UGC/CSIR Fellowship tenable from the current year. Or
Master's degree in Engg./Tech. with 1st class or CGPA 6.5 or equivalent for certain areas.

2. Ph.D. and M.S: In Aerospace Engg. Applied Mech. (Engg. Mech, Fluid Mech., Machine Dynamics, Industrial Tribology, Maintenance Engg. & Management and Biomedical Engg.), Chemical Engg., Civil Engg., Computer Science & Engg., Electrical Engg., Humanities and Social Sciences(Industrial Engg. & Industrial Management; Humanities and Behavioural Sciences), Mechanical Engg., Metallurgical Engg. and Ocean Engg.

Opportunities also exist for research work in the following centres:
Centre for Bio-Science and Bio-Technology, Materials Science Research Centre, Regional Sophisticated Instrumentation Centre, FRP Research Centre (MS also) and Centre for Systems and Devices (MS also).

Minimum qualification:

Ph.D a) 1st class or minimum 6.5 CGPA of Master's degree in Engg./Tech.
b) For certain Depts, 1st class or minimum 6.5 CGPA of Master's degree in Science with a valid GATE score of 70 percentile or UGC/CSIR Fellowship tenable for the current year in the relevant areas.

M.S a) 1st class or minimum 6.5 CGPA of Bachelor's degree in Engg./Tech.
b) For certain Depts, 1st class or minimum 6.5 CGPA of Master's degree in Sciences/Humanities & Social Sciences with a valid GATE score of 70 percentile or UGC/CSIR Fellowship tenable for the current year in the relevant areas.

3. M.S. Entrepreneurship

Minimum qualification: As indicated above for M.S. Objective of the course – Production & Process development to start own Industries.

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B. EXTERNAL REGISTRATION FOR M.S./Ph.D PROGRAMME WITHOUT SCHOLARSHIP

Sponsored candidates from R & D Establishments, Public Undertakings and Industrial units with well established R & D Establishments, Public Utility undertakings and Industrial units with well established R & D Units recognised by DST and those involved in research & analysis in Service Organisations such as Banks, Government Departments, L.I.C. etc. may be considered for admission. They must possess the minimum academic qualification as prescribed for **fulltime candidates in all respects.** However, a candidate who has secured a high 2nd class (55% marks or CGPA 6.0) in Master's degree examination is also eligible if his/her degree is prior to 1970, or it is in a Humanities and Social Sciences subject, provided he/she possesses a valid GATE score/UGC/CSIR Fellowship **tenable for the current year.** Faculty of any University/College are not eligible to apply under this scheme. **Upper age limit:** For Ph.D – 45 Years, for M.S – 35 Years.

III. HOW TO APPLY

Candidates may apply on plain paper to the DEPUTY REGISTRAR (ACAD), IIT, MADRAS-600 036 for Application Form and Brochure separately for **M.Tech (sponsored), M.Sc., M.S., M.S. (Entrepreneurship) and Ph.D programmes** together with a demand draft separately for each programme for Rs. 25/- in favour of IIT, Madras, payable at Madras, drawn from any nationalised bank and 2 slips (5cm x 10cm) with full address of the applicant in CAPITAL LETTERS.

IV. LAST DATES— **Request for Application — By post 06th April 1992. At the Counter— 20th April 1992**
Receipt of Completed Application—22nd April 1992

DEPUTY REGISTRAR (ACADEMIC)

UNIVERSITY NEWS, MONDAY, MARCH 16, 1992 Regd. No. R.N. 7180/63 Postal Regd. No. DL–11106/92

PUNJAB AGRICULTURAL UNIVERSITY

LUDHIANA

MASTER OF BUSINESS ADMINISTRATION

Applications are invited for admission to Master of Business Administration programme for the academic year 1992-93.

ELIGIBILITY: Graduate/Postgraduate in Science/Engineering, Agriculture, Agricultural Engineering, Technology, Veterinary and Home Science with at least 60% marks (55% marks for Scheduled Castes/Scheduled Tribes) at graduation level.

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APPLICATIONS: The Prospectus alongwith application form can be obtained from the Registrar by sending crossed Indian Postal Order (s) for Rs. 20/-by post payable to the Comptroller, Punjab Agricultural University, at Post Office, PAU, Ludhiana or Rs. 15/- at counter against cash payment. The envelope containing request for application form or the complete application form should be marked 'ADMISSION TO MBA'.

The candidates should also attach attested copies of all certificates from Matric onward with their applications otherwise weightage of marks will not be given to them. The candidates are also required to submit two additional passport size photographs, in addition to a copy of photograph pasted on the admission form. All the photographs must be attested by the Principal of the Institution last attended by the candidate. The candidate must also give his/her name and father's name on the photographs and affix these photographs on the admission certificates supplied to them alongwith the application form. All the photographs should be from one negative.

LAST DATE FOR RECEIPT OF APPLICATIONS : 8.4.1992.

EXAMINATION FEE: The applications should be submitted to the Registrar, Punjab Agricultural University, Ludhiana, alongwith Bank Draft for Rs. 100/- in favour of the Comptroller, PAU, Ludhiana. **Incomplete application or applications without examination fee are liable to be rejected.**

REGISTRAR

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Towards a Purposeful Education

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College Education in Madhya Pradesh

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Research versus Teaching

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Junior Research Fellowship Test

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Crisis of Civility

●

Modernising Vocational Training

●

Incentive for Excellence in Teaching

DAAD

Deutscher Akademischer Austauschdienst (DAAD)

German Academic Exchange Service (GAES)

RESEARCH FELLOWSHIPS AND SANDWICH-MODEL FELLOWSHIPS FOR STUDIES IN GERMANY, 1993/94

The DAAD annual fellowships for 1993/94 will be offered to the Government of India throug
Department of Education, Ministry of Human Resource Development and the University Gr
Commission. The Department of Education and the UGC will announce the fellowship
July/August 1992, after which application forms will be available from them. Applications shoul
routed through the proper channels.

The fellowships are for one year (preceded by a four month German language course). Applicat
will be invited in the fields of Engineering & Technology, Agriculture, Horticulture and Fore
Veterinary Science and Animal Husbandry, Natural Sciences, Humanities & Social Sciences, L
German Language & Literature.

This advance announcement is being made to give prospective applicants additional time to g
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Essential Pre-requisites for Both Types of Fellowships

Candidates must possess a Master's degree.
Candidates must be residing in India at the time of applying.
Candidates should not be more than 32 years of age.
Candidates must have a recent-dated letter of placement from a German professor.
All applications must be routed through proper channels.

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Sandwich-Model Fellowships

Open to scholars registered for doctorate degrees in India. The scholar can carry out resea
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Pre-requisites for Sandwich-Model Fellowships

Candidates must be registered for their Ph.D. degree in India.
Permanent employment is not essential.

For further information and questions regarding higher studies in Germany please contact:

German Academic Exchange Service
176, Golf Links, New Delhi - 110 003.
Telephones: 615148, 615009 *Telex*: 031-66471 DAAD IN

The DAAD fellowships for CSIR staff will be announced and circulated by the CSIR internally

7 APR. 1992.

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Editor :
SUTINDER SINGH

Towards a Purposeful Education

Om Nagpal*

A bulk of our present day higher education is not in consonance with and hence does not cater to the requirements of new India. If we except the medical, engineering, agricultural, vocational and some skillful education, most of our education is inept and unavailing for livelihood – earning the bare bread and butter. Whereas the type of personnel – technical, administrative, managerial, fiscal, any cadre one may conceive of – required by the existing industrial age is not produced by the prevalent education system; the youth coming out from college-university campus is not cut out to fit in the framework of social and industrial requirements.

It is easy to assert that the aim of education is to build the character and moral of mankind. But after spending the invaluable twenty years of life in getting just the university rolls of degrees the young people fail to ensure their entry into the domain of public or private sector. The frustration of the youth mounts up with the realization that over the past years they did not acquire any vocational skill which could have enabled them to earn their subsistence. Their wrathful indignation against the inept education and unrelenting social system finds expression in violence, alcoholism, crime and terrorism.

In the sphere of higher education not even 10% of the students get vocational or job-oriented education. 40.4% of the students in the colleges and universities study Arts, 19.6% Science, and 21.9% Commerce. No doubt, the study of the basic tenets of these faculties has its own importance but it cannot be denied that the society does not require nor can it absorb their enormous number. These students don't pick up any skill. Devoid of any clear cut objective, the students join the colleges and universities; they do not have any genuine interest in the studies. The educational institutions become sick units. Without remedying this malady the tall talks about the reforms in examinations or loud slogans for reorganizing the courses would be a cry in wilderness.

Those at the helm of affairs in the field of higher education are also aware of and concerned about the ulcerous problem. In the "Theme Document" presented in the Conference of the Vice-Chancellors held at Trivandrum, it was observed:

> "The problem of relevance of collegiate education drew attention of University Grants Commission. To overcome this, the University Grants Commission came out with the idea of autonomous colleges in 1975-76, and with another idea of restructuring of courses in 1981."

Professor A. M. Khusro too endorsed the same opinion regarding non-relevance of the present day education. In his paper "Decentralization of Higher Education System in India" he opined :

> "As things stand, and as they have been standing for decades, young people do not have alternatives to the university and college system and millions of them unnecessarily throng the portals of universities and colleges. Through this pressure of numbers they end themselves inefficient, unskilled, unemployed and unwanted. They become square pegs in round holes.... Uncertain of their future, they begin to get disinterested in the academic work and hence a lot of day dreaming, mind wandering and purposelessness emerges.

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UNIT
7 APR 1992

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*Chairman, M.P. Uchcha Shiksha Anudan Ayog, E-2/84 Arera Colony, Bhopal-462016.

Indian Express of 17th November, 1991, carried the interview of the Chairman, University Grants Commission, Dr. G. Ram Reddy, who acquiesced with the problems and said :

> "The main problems of our educational system that I have identified are three – quality, access and relevance.... The main challenge is how to make education more relevant."

Admittedly the U.G.C. is well aware of the problems. However, the solutions suggested by it are rather inadequate. The universities and colleges are advised to implement vocation-oriented courses. But the existing staff itself is neither vocationally talented nor well versed in the techniques. The educators are not acquainted with the latest. Let alone imparting instructions, it would be difficult for them even to frame the courses of study. Hence, the reorganization of the syllabi or allowing autonomy to the colleges would not solve the problems confronting the system.

No serious or intensive study has been undertaken to assess the nature of skill and the number of persons required. Instead of the U.G.C., it is the organized sectors that can efficiently and correctly evaluate their needs vis-a-vis the qualified manpower available and suitable for their industry. The Railways, Textile, ONGC, Banking, Insurance, Tourist Department and such other well organized sectors can project their own departmental requirements and groove the youth accordingly. It is such organized sectors and not the university bodies that should frame the courses of study and recruit the required youth for coaching and absorption in the regular channels.

In this era of advanced research and technology the sophisticated instruments are pretty costly. For example, for imparting instructions in Mass Communication, a huge sum of Rs. 10 crores is required to furnish the department with the most modern studio and equipment. These too would become obsolete and outdated after 3 to 5 years. Besides, a highly technical and qualified personnel abreast of the most modern and latest techniques is required for the operation of these instruments. Forget about the academic educational institutions, the Central or State Governments too lack adequate resources to fund the recurrent expenditure. To instal the modern subtle instruments in the existing labs, operate them, replace the obsolete with the latest would be a proposition of tall order – beyond the limited means of the barely surviving institutions.

Keeping in view these facts, it would not be wrong to infer that apart from the existing educational system, it is essential to evolve a positive and purposeful alternative. What could be this alternative? What would be the core and format of the new system? What would be the centres of such education? Many other allied questions emanate from this conclusion.

In the first instance, the requirement of the skilled, vocational, technical and such other personnel should be individually assessed by the respective sectors and industries. Then these sectors should imart necessary educational training to the youth.

Education upto XII standard is sufficient to provide a base, develop aptitude and professional-vocational aspiration in a student. After this basic education, the organized sectors should screen the youth so as to ascertain their suitability and then select them to undergo a special type of training that would lead them to acquire skill essential for a particular job. The syllabi, the courses of study, the type of training should all be decided by the respective sectors. There are Academies for three wings of Defence Forces. They recruit their own boys and officers, educate and train them for Army, Navy and Air Force. Academies on similar pattern can be established for Railways, Journalistic media, Electronics, Tourism, Environmental Protection, Textile, Automobile, Oil etc. These Academies would open new and effective avenues for the young aspirants who need not then roam aimlessly the portals of the colleges and universities. In fine, hitherto the industries and workshops were taken to the campus of higher education, now let us reverse this process.

These Academies in the organised sector would train only the requisite number of the students and thereby stop the army of the unemployed educated being swelled up year after year. Here they would get the theoretical as well as the applied knowledge. Such enterprises already have trained personnel with them. For imparting theoretical information they can engage college-university teachers who would thereby have scope for an extra dimensional teaching.

Such a system would be fairly practical. Uptron runs its own Computer Academy. The courses taught and the training imparted here are ahead of and more useful than those given in any Computer Department run by a university. The Times of India Group has its own Institute of Journalism. The educative exposure here is more valuable than that given by a university in its Department of Journalism. The need of the hour is to launch such a mission on an extensive scale towards nation building.

(Contd. on page 7)

College Education in Madhya Pradesh

S. P. Gupta*

A vast system does not easily give a full view, let alone come into grasp. It gives a panoramic view if seen from a distance and offers a host of attractive features. If observed from close quarters, one comes across many unseen things which motivate him to have a closer look and do some kind of study. The college system of Madhya Pradesh is no exception to the general rule. In addition to being a vast system, it is also complex. To give a brief view of its character, the following 'vital' statistics :

Total number of students who passed XII (M.P.Board) in 1990-91	2,05,410
No. of seats in 1st year in 1991-92	98,000

No. of Universities	14
No. of Colleges of which	561
(i) Government	410
(ii) Aided	90
(iii) Unaided	61
No. of autonomous colleges	25

Nearly a hundred colleges are postgraduate and 116 colleges are under the Tribal Sub-plan of the Govt.

It was a daunting task to do a study in a short period of ten days along with the work of the UGC committee for discussions of the Eighth Plan proposals of colleges. But the task became easier as discussions with Principals went ahead. It was further made easy by discussions held with the authorities of the Madhya Pradesh Uchcha Shiksha Anudan Ayog and State Council of Science & Technology and visits to Govt. Nutan Girls College, Bhopal, Govt. Adarsh Vigyan Mahavidyalaya, Bhopal and two private colleges, namely, Saifia College, Bhopal and Jain PG College, Vidisha. Besides, the importance of informal discussions with the Ministers, Chief Secretary, Secretaries, Commissioner, Directors and other Officers of the State Government cannot be underestimated. And last but not the least, the light shed by Prof. S. P. Sinha (ex-VC, Patna University) and the views of Dr. Kulwant Madan of Punjabi University and Dr. Swadhinanand Pattanayak of Sambalpur University proved most helpful for the task.

Profile

When Madhya Pradesh became a State in 1956 it got some famous colleges like Holkar Science College, Indore, Robertson College, Jabalpur, Madhav College, Ujjain, and Govt. College of Education, Jabalpur (estd. 1889). But good colleges were not available in smaller places, less so in rural areas and least so in the tribal regions. With the growing development of the State the social demand for higher education became stronger and stronger. Consequently, M.P. has now 14 Universities, including two agricultural universities, one music university and the recently set up Chitrakoot Gramodaya Vishwavidyalaya and Bhoj (Mukta) Vishwavidyalaya. The universities and the colleges affiliated to them have to take big strides in order to develop to a reasonable level and provide good education to their students. It tells upon the standards to go on admitting large numbers of students without increasing the requisite infrastructure. For example, only 156 of the 410 government colleges have their own buildings. Even these need augmentation owing to the rise in the number of students, and subjects taught. It is stated that laboratories and libraries are generally ill-equipped and outdated.

Type of Institution	*Enrolment*
Univ. departments	7,470
Govt. Colleges	1,68,085
Non-Govt. Colleges	57,607
Total enrolment	2,33,162

As stated earlier one of the most pressing problems of colleges is provision of buildings since only one-third of the colleges have their own buildings. The following table gives the position of buildings in government colleges:

Govt. Colleges running in own buildings	–	156
Govt. Colleges where buildings are being constructed	–	78
Govt. Colleges running in school buildings or rented buildings	–	176

It was learnt that the problem of buildings is becoming more difficult year by year. The VII Plan has seen fast growth in the opening up of new colleges. As many as 134 new colleges were started (100 in general and 34

**Additional Secretary, University Grants Commission, New Delhi-110002* in tribal areas). Besides, new subjects were started at several places but the requisite facilities were not provided. For example a Principal said that PG course had been started in Economics without adding any new facility and both UG and PG courses were being run by two teachers only. Like this, additional subjects and faculties were started in 250 Govt. colleges. In 1989-90 alone 76 colleges had added new subjects and faculties. The shortage of teachers in colleges could not be made up even though the State Government created as many as 4,135 posts during the VII Five Year Plan, making a total of ten thousand posts in the government colleges in 1991.

The resources could not meet the needs of fast educational growth, hence, inevitable fall in standards. Total plan expenditure incurred during the VII Plan was Rs.68 crores and the demand for the VIII Plan is more than double the amount. Keeping the availability of resources in view the State should do consolidation with all the means at its disposal. It is interesting to note that there are 69 PG colleges under the government. Several colleges run more PG departments than many a university. For example, the Govt. M.L.B.Girls' College, Bhopal, has as many as 19 PG departments. But less than half fulfil the UGC norms. Teachers said, they were overloaded with teaching work and had no time to read journals or do research. Thus, most PG departments are not viable. So is the case with many colleges.

Range & Spread

The range of students' enrolment varies widely, from more than three thousand to less than fifty, the latter category has as many as 57 colleges.

Types of Govt. Colleges by number of students (1990-91)

(i)	Above 3000 students	–	02 colleges
(ii)	2000-3000	–	08
(iii)	1000-2000	–	42
(iv)	500-1000	–	48
(v)	200-500	–	92
(vi)	100-200	–	81
(vii)	50-100	–	80
(viii)	Below 50	–	57
			410

There are altogether 96 government colleges in the Tribal Sub-Plan and in addition 60 colleges are situated in rural areas. Further, there are 68 girls colleges including 12 in the tribal sub-plan mentioned above.

Improvement of Standards

"As a result of opening new colleges and new subjects at several places without providing adequate equipment and facilities, the standard of higher education in the State has either remained static or has considerably deteriorated." In addition, the stagnation can be attributed to lack of motivation and academic freedom The infrastructural facilities for development are taken care of by the UGC and the State Government. Maintenance is the responsibility of the State alone. Grants to the Govt. colleges flow from the Government and to the private colleges from the M.P. Uchcha Shiksha Anudan Ayog (MPUSAA). The Ayog not merely aids the colleges with finance, it also does a lot for academic improvement of higher education in the State.

Major functions of M.P.U.S.A.Ayog

1. To prepare, revise ad update the courses of study of degree classes.

2. To publish standard books.

3. Dr. Radhakrishnan award for the College-University Teachers on the basis of published research papers in National/International Journals, to promote Research activities in the State.

4. Vivekanand Award to students who have successfully competed in All India Entrance Exams of Higher Education.

5. To organise and finance symposiums, seminars discussions in the colleges and universities on (a) current problems and solutions, (b) Indian Thinkers, and (c) Great Indian Scientists.

6. To monitor the working of college and university education.

7. Financial Assistance to colleges (non-govt.) and universities.

8. Discussion about various problems of higher education e.g. problems and solution - Autonomous Colleges.

9. Study of Higher Education in M.P.

10. To undertake in-service refresher courses.

The M.P. Council of Science & Technology too plays a major role in the improvement of academic standards in the areas of science and technology. Among its multiple functions, mention may be made of the research projects it gives to the university and college teachers. It has done a lot to keep the research interests of the college teachers alive since, by and large, there is no environment for research in colleges. Further, grants are also provided for holding/attending seminars and conferences. All this goes a long way in motivating teachers towards expanding their mental horizon and dvancing the frontiers of knowledge. The Council also rovides central facilities for instrumentation and ocumentation since sophisticated equipment cannot e had at many places due to their prohibitive cost.

utonomous Colleges

One of the major hindrances in the improvement of tandards has been the clubbing together of all colleges or the same curriculum, syllabus and examination sysem. This gives no freedom to college teachers to make ny innovation for academic improvement. Now with he operation of the scheme of autonomous colleges, ttempt is being made at several places to make some ew experiments of curriculum design and examination reform. We shall take two colleges for example, the Govt Science Colleges, Jabalpur and the Govt. Science College, Raipur. The former attempts to restructure the UG programme and the latter to introduce socially relevant courses and a bold attempt to show the answer scripts to students. The Foundation Course designed by the Science College, Jabalpur, consists of General Awareness component (the people of India, Tribal Heritage, the Heritage of Indian Art and the Freedom Movement in India), Hindi and English. It is a good combination, no doubt.

Govt. Science College, Raipur

"Govt. Science College, Raipur, is an autonomous institution, affiliated with Ravishankar University, Raipur. Raipur is situated in the cement belt and there are seven cement factories already working around Raipur and two more are coming up. It was therefore decided to start PG Diploma Programme in Cement Chemistry which includes two months on the spot practical training in the cement factory. Various cement factories like Modi, Raymonds, ACC, Century etc., provided us with all facilities and even volunteers to teach the students. Students graduating out are getting fixed up even before the declaration of result."

"Sericulture has been started in view of the development of Kosa industries spread all over Chhattisgarh region and keeping in view the requirements of Woolworth & Silkoworth, India, PG Diploma Programme was started and we have prepared the course, keeping in view the syllabii of Mysore University. Students are finding ready employment in Woolworth & Silkworth India and in government departments as Silk Inspectors."

"Keeping in view the requirements of Woolworth & Silkworth India, we are proposing to start Textile Chemistry course and it may be pointed out that with some persuation Woolworth India may sponsor the course."

"In autonomous scheme we have semester system and answer scripts are shown to the students. The syllabii are being modified in accordance with UGC curricula."

(Reported by Principal, Govt. Science College, Raipur)

Removing Disparities

Madhya Pradesh has 561 general purpose colleges with an enrolment of 2.25 lakh students. Of them, 410 colleges are run by the government, and have an average enrolment of 410 students. The remaining 151 colleges are managed by private bodies (91 of them receive aid from the government) and cater to 384 students on an average.

There are 52 government colleges with a strength of more than 1,000 students each. In fact they have around 50% of the total students enrolled in government colleges. The remaining 358 government colleges too have the remaining 50% of the students, but with an average enrolment of about 235 students each. It is a matter of concern that 137 government colleges have less than 100 students each.

The data on enrolment of students in private colleges is not available. Therefore, one cannot say whether the distribution of students in them is as skewed as in the case of government colleges. The hunch is that it is more skewed. It should be considered advisable that all efforts are made to remove the causes leading to the skewness in distribution. One can believe that these causes have their genesis in less than critical location of weaker colleges, poor infrastructure, and small number of teachers in them. The effort should be to reduce the uneven distribution of colleges in different areas. Wherever possible, some of the weaker colleges may be merged together or in better colleges, or moved to strategically more fertile areas. Perhaps rationalized distribution of teachers and other resources would prove instrumental in improving the quality of education in weaker colleges and thus in increasing their strength.

The above recommendation is to be seen in the light of—

1. During the VII Plan period, 134 colleges (82 in 1989-90 alone) were opened;
2. One-third of general type blocks, and one-half of tribal blocks do not have any college; and
3. Six percent of towns in general areas, and 10 percent of towns in backward areas do not have

any college.

Reasonably adequate funds for laboratory equipment are being provided by the UGC under the VIII Plan development scheme. The State Government may examine the possibility of diverting major part of its funds for equipment to the weaker colleges.

Application-oriented Courses

It is noted with satisfaction that universities and autonomous colleges have taken initiative in the direction of designing job-oriented and innovative courses. But most of this effort is limited to science courses. Given that around 70 percent of students are in arts, social sciences, humanities and literature subjects, and that often students with lower level of performance in the previous examinations tend to seek admission in these courses, it would prove helpful to the larger numbers if innovative and application/job-oriented courses are designed and introduced for them on priority basis. This would call for a concerted effort on the part of the universities, autonomous colleges, and the State Government in terms of designing of courses, affiliation of colleges for them, diverting teachers (newly established posts as also the surpluses in the strength of some stronger colleges) to the new courses, etc. The nature of the suggested courses is such that they may not require much financial involvement.

General Observations

1. Good private colleges were often better run than Govt. Colleges.

2. Missionary run colleges were, in general, good.

3. Even in the colleges located in areas of high concentration of tribal population there was no such concentration in enrolment. It was seldom above 10% of the total enrolment. So the advantages of relaxation for such colleges does not accrue in general to the tribal population but to the few upper caste elite in the area.

4. There was a general lack of initiative to take advantage of the grants available from the UGC and other funding agencies (This could be because of want of initiative from the college development councils of the universities).

5. In spite of uniformization and claim of modernization of courses the mathematics syllabus was not upto standard. There should be better rationalization and upgradation of mathematics syllabus. Computer programming should be a part of the mathematics course. Every student who takes mathematics must have at least run a computer for atleast three hours a week for a period of one year. To avoid difficulties this change may be so effected that it forms a paper in th last year of the three-year degree course. So the administration and the college has at least three years t provide the infrastructure. There should be a worksho of senior professors of various universities and college and some eminent mathematicians of the country t draw a better syllabus.

6. It was strange to notice that many government colleges with postgraduate classes did not have adequate teaching staff. In one such college only two teachers had to teach all five years (three years of undergraduate and two years of postgraduate classes) in one subject. Unless staff strength increases this postgraduate department can never qualify for any assistance from UGC. In this context it is relevant to observe that in most of the colleges the average teaching load is more than 24 hours a week on a teacher. This works out to more than four hours a day, leaving very little leisure and energy for a teacher to take initiative for innovation and original work. No wonder many postgraduate departments did not qualify for UGC grants as one of the barest minimum requirements publishing three papers of at least national standard in a period of three years. Many of the colleges lacked adequate library space. Almost every college asked for grants for building/extension of library. But with the ceiling prescribed hardly a library of appreciable space can be built.

7. Many colleges asked for technical staff to maintain their laboratories and equipment. This, of course, could not be funded by the UGC for want of commitment from the State Government to take up the financial burden after a period of five years.

8. There does not seem to be any consistent policy of the government about colleges. Many colleges are taken over by the government without adequate staff and facilities. The strangest thing of all is that many government colleges do not have buildings of their own.

About Rs. 1.50 crores have been allocated for purchase of PC/XT (Personal Computers) for spread of computer literacy. We believe if these are put to proper use, it would not only increase the computer awareness among a large section of students but also trigger a process of demystification of computers. This would help students, with training in use of computers, to secure jobs or start their own business with a small initial capital.

A weekly six hours of actual handling of computer for one year can make a student proficient enough to work on a computer independently. He/She can secure a job as a computer operator or a technical assistant, or start a business with a small capital. To train a good number of students full utilization of computer time is bsolutely necessary. A computer centre could be used tleast twelve hours a day. This means atleast 72 hours f computer time for every available computer. This neans atleast 12 students can be trained thus. In fact, f properly managed, two students can be made to use one computer simultaneously under the supervision of the teachers and 24 students can be trained every year.

With funding of one crore a total of 200 very good PC/XTs can be purchased. This means, a total of 4,800 students can get intensive training from the entire State of Madhya Pradesh. This is substantial portion of the number of students passing out of the colleges of Madhya Pradesh. This could also lead to availability of large number of trained hands to spread computer education to high schools. The arithmetic appears encouraging.

But experience tells us, many of the equipments, available with the colleges are often not put to optimal use. In extreme cases these are never used at all. Is it not a criminal wastage of resources? In many cases institutions are unable to purchase the equipment, in time, and in extreme cases leads to lapse of the allocated funds. Is it not the time to stop blaming others when we ourselves spurn the opportunities offered to us on a platter?

Therefore, there should be a concerted effort to see that the promised amount is put to the best use.

This can be done in three stages:

In the first stage, the management should see to it that the computers are purchased well in time. The Government could help in the process by entering into rate contracts with various firms which manufacture computers. Various colleges may be instructed to make the purchase at these approved rates (Government could monitor this). The Department of Electronics, Government of India, may help the State Government in identifying some reliable manufacturers.

After purchase, some sort of verification may be made to ensure that the computers have been installed properly. The M.P. Commission of Higher Education may help the colleges to get these installed as it has often been found that the colleges are unable to do it on their own.

The third and the final stage is to ensure that the computers are used at least 12 hours a day for benefit of the students. This can be done in shifts. But it seems, colleges are not used to schedules beyond 6 hours a day. The details may be worked out of how to optimise within the constraints of the working hours. However, those institutions/individual teachers which are willing to work in shifts should be encouraged by either small pecuniary advantages or relaxation of their work load.

It is encouraging to note that some colleges are already imparting computer training to their students @ 3 hours a week with the limited resource at their disposal. Such colleges can be strengthened by augmenting the facilities already existing. Some portion of their equipment grant can be earmarked for PC/XT. Besides, some institutions can be made the nucleus for propagation of computer awareness. One such institution is Saifia College, Bhopal. There are several other colleges which have shown the initiative and drive to take the leadership.

The Eighth Plan offers a fresh opportunity to colleges for development on new lines. Nearly fifty percent of the colleges in M.P. fulfil the norms to receive assistance from the UGC. A college can receive five to ten lakhs of rupees from the UGC in a plan period depending upon the size of student population in undergraduate & PG classes. Further inputs are available from UGC for postgraduate development. The autonomous colleges receive heavy inputs in addition. If the plans are implemented properly, the UGC assistance can be put to the best advantage. The standards of education can be certainly improved if the UGC, State Government, MPUSA Ayog, universities and the college development councils make concerted efforts. A step in right direction was taken when all the above named agencies sat together with Principals to discuss the Eighth Plan development proposals of colleges. It is desirable to hold such meetings for monitoring as well. The prospects are bright.

Towards a Purposeful Education

(Contd. from page 2)

If such a concept is implemented into action not only the youth would get purposeful education, but the industrial world too would have efficient and trained persons to work. The energy of the young ones would not dissipate and our limited economic resources would have optimum output.

This does not mean that the universities and colleges have to pull down their shutters. They would go on as they have been. Of course, they have to adapt to the changing patterns and developments. Simultaneously, they too have to evolve a more purposeful and positive alternative for the frustrated flagging youth.

Therefore, let the higher education be purposive. Let it be provided by the organised sector, and let the university and college teacher assist in this programme.

Let's open a second channel for the youth in the field of higher education.

Research versus Teaching

Fr. N. Pereira*

Often we hear the word research mentioned as the aim of the University. Too much emphasis on research could be detrimental to the general purpose of university education, if the characteristics of this research are not properly spelled out.

Research has a subsidiary place in the university education as long as it helps to achieve the main purpose of university education. Jawaharlal Nehru said that a University stands "for humanism, for tolerance, for reason, for the adventure of ideas and for the search of truth. It stands for the onward march of the human race towards even higher objectives". This ideal of university education is not new. If we go back to the old Greek schools or Vedic times we see that higher education had the purpose of making man more humane, understandably by giving him knowledge and through knowledge wisdom for making him an ideal man.

University education must first of all lead to knowledge. This knowledge passes from generation to generation as cultural heritage. Acquisition of this knowledge should increase human wisdom and make man more compassionate, humane, gentleman.

The famous verse of T.S. Eliot gives in a nutshell what is the ultimate aim of knowledge :

> "Where is the wisdom that we lost in knowledge
>
> Where is the knowledge that we have lost in information?
>
> The cycle of heaven in twenty centuries
>
> Brings us further from God and nearer to dust."

Bergson had said that "For a conscious being to exist is to change, to change is to mature, to mature is to go on creating one's self endlessly". This expression of Bergson could very well summarise the aim of higher education. Human beings are born as helpless babies. They grow and while growing they change. Human growth is associated with change and this applies both to physical and intellectual and spiritual growth. A person who grows goes on creating constantly his own self.

Function of Higher Education

Higher education, be it collegiate or university, has this function of helping one to create himself endlessly. As man grows in age, his intellectual capacity and awareness also grows. The number of questions that he had started raising from his childhood go on adding and his search for answers goes on unrelented. Some answers are readily available and are satisfactory. Some may not be pertinent at a particular stage of the mind. In view of this the knowledge has to be imparted in dosages. Thus we have primary, secondary and tertiary education.

Though nowadays a lot of information on sciences, geography, history, literature is imparted at secondary and even primary level, critical evaluation of the information received can be effected only when the mind has attained the required maturity. When a young man/woman reaches the age of going to college, his/her mind is sufficiently developed to make queries and find answers or at least to know that correct answer is yet to come. As put by Will Durant in his *The Story of Philosophy*, "We want to understand life means for us constantly to transform into light and flame all that we are or meet with".

In olden times man had a few questions but very important ones. The answer to all these questions was to be found in the subject called Philosophy. Indeed human knowledge started with Philosophy. Man tried to see the world around him – mountains, oceans, sun, stars – and he started questioning, man had to live in this world. Again he started questioning; how to live with others. But the philosophers like Socrates said : know thyself : *gnothi seauton*. All this questioning in China, India, Greece of olden times gave rise to all branches that make philosophy : logic, aesthetics, ethics, politics and metaphysics, cosmology. In the course of time man found that the methods used to acquire knowledge in certain areas were faulty. Thus with Bacon's *New Organon* a new method, observational method, was given the due credentials for acquiring knowledge in experimental sciences.

The method of induction requires repetition of facts to reach conclusions and to certify theories. This continuous verification of facts before a conclusion is arrived at, has given rise to a word very much in vogue, i.e., research. All the positive sciences which depend very much on facts have to verify facts. Some of the social sciences like Psychology, Economics use science methodology or reasoning by induction. Consequently, they have to look for facts, before arriving at certain conclusions. These conclusions give rise to different branches of human knowledge.

Power House of New Ideas

University's function is to transmit knowledge. This function is thus intimately connected with teaching. Sometimes this function becomes subsidiary, emphasis

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being laid down only on research in many parts of the world. In many parts of the world such a complaint has been made against the universities. Recently I have come across the Smith Report on Canadian Universities, where it is stated, "Teaching is seriously undervalued at Canadian Universities and nothing less than a total re-commitment to it is required". Thus the university turns out not erudite, knowledgeable persons but uncultured minds whose knowledge becomes outdated as soon as they leave the portals of the universities. In his address to the University of Colombo delivered on 12 January, 1930, Nehru was emphasising this point when he said : "If the Universities do not teach some kind of basic wisdom, if they think in terms of producing people with degrees who want certain jobs, then the University may have, perhaps, solved to a very minor extent the problems of unemployment or provided some technical help or other, but they will not have produced men who can understand or solve the problems of today". When the knowledge is restricted to a limited area of research, sacrificing the acquisition of knowledge that makes cultural heritage, this type of research turns out to be beneficial to the teachers rather than to the student's. A student's activity in the university cannot be confined to a limited area of knowledge which goes by the name of research. It was therefore a wise step that many universities have taken of eliminating M.Sc. or M.A. by research only. Such schemes were not giving the students a comprehensive view of the subject. It is argued that all students may not take to the profession of teaching or writing which requires a wide scanning of knowledge. Industries do not look for scholarship, but for skills and a research degree is sufficient for the purpose. There is nothing about this trend of thought, but utility of such degrees has to be well defined. In many parts of the world, there are such degrees. In America, for example, every M.A. or M.Sc. are not equivalent. There is M.A./M.Sc.(T) good for those who wish to become school teachers and M.A./M.Sc. (R) which in addition to courses implies a research paper (not simple essay). This M.Sc.(R) is preferred even by industries, which do not look only for technical skills, but also for persons capable of being involved in improving production originating new products.

Place of Research in Higher Degrees

It does not mean that there should be no research in universities. It is by research that the sum total of our knowledge goes on increasing. There has to be research in Pure as well as Applied Sciences, in Humanities and Social Sciences. But the aim of this research though commendable, should not substitute the aim of education which is attained by the acquisition of knowledge. Research presupposes knowledge of the subject and its ramifications which may link it with other subjects. The validity of research depends on how much they contribute to increase the knowledge or confirm the knowledge already existing. Therefore the research projects come as a complement to the knowledge that a student has to acquire during his formative years in the university. The knowledge acquired through these research projects enriches not only the mind of the student, but eventually makes a great impact on the contribution that the faculty of the university has to give to knowledge.

Human knowledge in the course of centuries has not remained stagnant. What Plato or Aristotle or Aquinas had taught has not remained as a final word. Human knowledge has been refined, corrected, increased and these operations continued mostly with the help of universities and academies. If we read any book on the history of human knowledge, such as the *Story of Philosophy* of Will Durant, we observe how human knowledge has progressed. Human thought while evolving was going in a certain direction. The great mentors of human mind twisted, corrected it and, on doing so, more ideas were added. In Pure as well as Applied Sciences the progress has also been phenomenal, because the nature is so full of mysteries that the unravelling cannot be the work of a single mind and even a single generation. The faculty of a university or an academy is not only in a better position to do this unravelling, but also to make a synthesis or to put together what has been acquired by experiment or reasoning to constitute human knowledge. A research student should be given a solid foundation in the subject by making him acquire the knowledge, which should force him to think, reflect, establish linkages with other subjects and life in general.

Thus the university's function is not mere research, but transmission of the existing knowledge, completing it when it is unfinished, correcting it when it is defective, adding to it what was unknown. It is worthwhile to repeat what John Henry Newman, the first Rector of Dublin University had written in the last century : "University is the place to which a thousand schools make contributions, in which the intellect may safely range and speculate sure to find its equal in some antagonist activity, and its judge in the tribunal of truth. It is a place where inquiry is pushed forward, and discoveries verified and perfected, and rashness rendered innocuous, and error exposed, by the collision of mind with mind, and knowledge with knowledge. It is the place where the professor becomes eloquent, and is a missionary and a preacher, displaying his science in its most complete and most winning form, pouring it forth with the zeal of enthusiasm, and lighting up his own love of it in the breasts of his hearers. It is a place which wins the admiration of the young by its celebrity, kindles the affections of the middle aged by its beauty and rivets the fidelity of the old by its associations. It is a seat of wisdom, a light of the world, a minister of the faith, an Alma Mater of the rising generation. It is this and a great deal more, and demands a somewhat better head and hand than mine to describe it well". As Nehru was saying almost a century later : "A University is essentially a place of culture, whatever culture might mean."

The Junior Research Fellowship Test

An Evaluation

R. P. Bhatnagar*

The purpose of this study had been to (1) make an assessment of the reliability and validity of the national level JRF/Teacher Eligibility Test conducted by the UGC, (2) to identify the universities which have bagged the largest number of fellowships, (3) to identify the universities which fail to show satisfactory performance in this context, (4) to identify which university is strong in which faculty as indicated by the number of candidates qualifying the test, (5) to identify the States which have produced larger number of qualifying candidates, and (6) to make regionwise analyses of qualifying candidates.

The study was considered important in view of various criticisms levelled against the test so as to establish its utility for future.

The analysis is based on the results of 1986, 1987 and 1988 declared by the UGC. The results of 1984 and 1985 could not be available. Again, the analysis is confined only to 12 traditional subjects that are taught at most of the universities. These are (1) Economics, (2) Political Science, (3) Philosophy, (4) Psychology, (5) Sociology, (6) History, (7) Anthropology, (8) Commerce, (9) Education, (10) Hindi, (11) Sanskrit, and (12) English. The analysis excludes all the institutes of technology, agricultural universities, Sanskrit Sansthans and other institutions of highly specific character where the above subjects are not taught. Thus, finally the analysis included 110 universities.

The Results

It was found that only 85 universities out of 110 could produce some JRFs during these three years. The rest of them failed to produce even a single JRF candidate. The quality of teaching-learning at these universities may be one of the reasons for this. But, it may also be said that the test is not reliable and valid and that it favours certain institutions while disfavours others. Hence, the first issue to be resolved was to establish test's reliability and validity.

Reliability and Validity of the Test

To assess the validity it was hypothesized that if the test is valid it must discriminate between the first and the second divisioner JRFs. Significantly larger number of JRFs should be first divisioners. To test this hypothesis a 2x2 chi-square table was prepared and the chi-square value thus obtained was tested against equal distribution hypothesis. If the test is not valid i.e. if it does not discriminate between the first and the second divisoners, the number of qualifying candidates should be equally distributed over the first and second division categories. The obtained chi-Sq. values for 1986, 1987, 1988 were found to be 40, 28.50 and 90 respectively which are highly significant indicating that excellence on JRF and excellence on university examinations are highly correlated. This may mean that the test has sufficiently high validity. The chi-sq. values were converted into contingency coefficients of correlation (C) which came to be .222, .228 and .371 ($N = 774, 522, 576$) for 1986, 1987 and 1988 respectively. They were significant at .01 level which shows significant relationship between candidates' intrinsic merit and their performance on the JRF tests. If the divisions obtained by the candidates in their postgraduate examinations are considered valid, one will have to accept that the JRF Test is also valid. Another evidence of the validity of the Test may be obtained from the fact that out of the 12 top universities on the JRF tests 8 appeared to be in the list of first 10 universities identified on the basis of the success ratio in the I.A.S. examination of 1986 of the U.P.S.C. These universities are Delhi, JNU, Allahabad, Lucknow, Panjab, Patna, Rajasthan (Jaipur) and Utkal. As perceived by very many scholars and academics there are certain good universities known for good quality teaching-learning such as Delhi, JNU, Allahabad, Rajasthan, while there are others which are perceived to be poor in this regard. The same is revealed by the performance of the universities on the JRF Test also. The data revealed that the universities perceived to be known for their high quality teaching-learning have produced largest number of JRFs. Delhi University and JNU alone share roughly 25 percent of the total number of JRFs produced during these three years. Other universities that follow are Allahabad, Rajasthan, Utkal, erala, Patna, Hyderabad, Lucknow, Panjab and adras. A high image university emerges to be high on he JRF Test also. This may be considered a sufficient ndication of the validity of these tests.

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No test can be valid if it is not reliable. Logically, herefore, it may be concluded that the test is reliable lso. Again, some evidence of its reliability may be ound in the consistency of performance of the universities over the three years 1986, 1987 and 1988. About eventy percent of the universities have shown almost he same performance consistently over these three years. In view of the fact that each year the test papers are different and the population also changes and a very high level of consistency cannot be expected under these circumstances this much consistency should be considered sufficiently high.

Performance of the Universities

If the JRF tests are taken to be reliable and valid, other conclusions drawn may appear to be significant and interesting. Some of these are as follows :

(1) That out of 110 universities at least 25 are those which have not produced a single JRF during these years. These are Algappa, Amravati, Anna, Arunachal, Gujarat, Gujarat Vidyapith, Guru Ghasidas, Gurukul Kangri, Kalyani, Kerala State Open University, Kota (Open), Kuvempu, Manipur, Mother Teresa Women, Nalanda (Open), Pondicherry, Poorvanchal, Rabindra Bharati, Rajasthan Vidyapith, Padmavati Mahila, Tilak Maharashtra Vidyapith, Tripura, Vidyasagar (Midnapur).

(2) The best performance is shown by the following 12 universities : (1) Delhi-295, (2) JNU-210, (3) Allahabad-182, (4) Rajasthan-98, (5) Utakl-87, (6) Calcutta-68, (7) Kerala-67, (8) Patna-51, (9) Hyderabad-50, (10) Panjab-44, (11) Lucknow-49, and (12) Madras-47. Given against each University is the total number of JRFs produced in 1986, 1987 and 1988 tests taken together.

(3) Out of the total number of JRFs produced by all the universities over these three years i.e. 1871 in 12 subjects, 1253 are contributed only by these 12 universities. The remaining 618 are shared by the rest of the 98 universities.

(4) The mean of JRFs of these 12 universities comes out to be 104.5 while that of the remaining 98 universities works out to be 6.7. That means that the difference between the performance of these 12 universities and the rest of the 98 universities is surprisingly very great.

(5) Some of the very affluent, well established and high image universities comparatively have not shown the performance as expected. These universities are : (I) Aligarh-32, (II) Gorakhpur-32, (III) BHU-27 (IV) Bombay-20, (V) Kurukshetra-14, (VI) Jamia-13, (VII) HP-11, (VIII) NEHU-10, (IX) Bangalore-11, (X) Mysore-7, (XI) M.S. University, Baroda-6, (XII) Dr. Hari Singh Gour-3, (XIII) Viswa Bharati-2,(XIV) Rani Durgawati-2, (XV) Nagpur-2, (XVI) South Gujarat-1, (XVII) Tata Institute of Social Sciences-1 and (XVIII) SNDT-1.

Subjectwise Analysis

(6) Subjectwise best universities are found to be as follows :

(1) *Economics* : (I) JNU-39; (II) Delhi-24; (III) Calcutta-22; and (IV) Utkal-20.

(2) *Political Science* : (I) JNU-72; (II) Delhi-51; (III)Allahabad-23; and (IV) Utkal-20.

(3) *Philosophy*: (I) Allahabad-51; (II) Rajasthan-13; (III) Delhi-10, and (IV) Jadavpur-5.

(4) *Psychology* : (I) Delhi-16; (II) Utkal-10; (III) Allahabad-9; and (IV) Lucknow-9.

(5) *Sociology* : (I) JNU-36, (II) Delhi-27; (III) Hyderabad-9; and (IV) Patna-7.

(6) *History* : (I) Delhi-55; (II) JNU-50; (III) Allahabad-23; and (IV) Utkal-13.

(7) *Anthropology* : (I) Delhi-32; (II) Calcutta-4; and (III) Panjab-4.

(8) *Commerce* : (I) Rajasthan-22; (II) Delhi-17; (III) Madras-8; and (IV) Utkal-8.

(9) *Education* : (I) Delhi-11; (II) Kerala-9; (III) Utkal-6; (IV) Lucknow-4; (V) Meerut-3; (VI) Kurukshetra-3; and (vii) Calicut-3.

(10) *Hindi* : (I) Allahabad-29; (II) Delhi-24; (III) Gorakhpur-18; and (IV) Rajasthan-10.

(11) *Sanskrit* : (I) Allahabad-25; (II) Rajasthan-18; (III) Delhi- 16; and (IV) Lucknow-9.

(12) *English* : (I) Kerala-20; (II) Madras-13; (III) Delhi-12; and (IV) Calcutta-10.

It was also found that Delhi University produces JRFs in all the 12 subjects emerging first in History, Anthropology, Psychology and Education; second, in Economics, Political Science, Sociology, Hindi, and Sanskrit; and third in Commerce, English and Philosophy. Allahabad University produces JRFs in six subjects getting first position in Philosophy, Hindi and Sanskrit and third position in Political Science, Psychology and History. Utkal University also comes out with JRFs in six subjects viz. Psychology, Education, Economics, Political Science, History and Commerce. Jwaharlal Nehru University tops in Economics, Political Science and Sociology but stands second in History. Rajasthan University gets first position in Commerce, second in Philosophy, third in Sanskrit and fourth in Hindi. Kerala University tops in English, gets second position in Education and sixth in Psychology. The best faculties are found as follows :

Economics, Political Science, and Sociology in JNU; Philosophy, Hindi and Sanskrit in Allahabad; Psychology, History, Anthropology and Education in Delhi; English in Kerala; and Commerce in Rajasthan.

Statewise and Regionwise Analysis

(7) Statewise analysis revealed that 16 universities in U.P. shared 406 JRFs as follows : Allahabad (182), Lucknow (49), Aligarh (32) Gorakhpur (32), BHU (27), Meerut (22), Garhwal (14), Agra (14), Awadh (10), Kanpur (8), Kashi Vidyapith (6), Kumaun, Bundelkhand and Rohilkhand (3 each) and Sampurnanand (1). In U.P., Allahabad University emrges to be the best and Lucknow second, in order of merit. Seven universities of Bihar contribute 114 JRFs as follows : Patna (51), Bihar (19), Bhagalpur (16), Magadh (15), Ranchi (11), Mithila (1), and Awadhesh Pratap Singh (1). In Bihar, Patna stands first and Bihar second in order of merit. Three universities of Delhi take away the largest share of 518 JRFs – Delhi contributing 295, JNU 210 and Jamia 13. Delhi and JNU come up as the best and the second best universities. Sixty seven JRFs are produced by three universities of Punjab as follows : Panjab (49), Guru Nanak Dev (11), and Punjabi (7). In Punjab, Panjab (Chandigarh) stands first and Guru Nanak Dev second. In Haryana, Kurukshetra (14) and MDU (Rohtak) (4) – the two universities share only 18 JRFs with first position going to Kurukshetra and second to MD University. In Himachal Pradesh, there is only one university (HP) which produces only 11 JRFs. Two JRFs go to Jammu and one to Srinagar (Kashmir) university. In Rajasthan five universities produce 118 JRFs as follows : Rajasthan (Jaipur) 98, Jodhpur 8, Udaipur 8, Banasthali 3, and Ajmer 1. Since these 39 universities of nine States constitute the northern region of the country, it may be concluded that the north alone share 1256 JRFs out of the total of the country which is 1871. In the north among all the States Delhi with only 3 universities emerges to be the leading State in this context.

Similarly, four States of South namely Tamil Nadu, Andhra Pradesh, Kerala, and Karnataka share 310 JRFs. The best university in Tamil Nadu is Madras (47 JRFs) and after this comes Madurai (15 JRFs). In Andhra Pradesh, Hyderabad University (50 JRFs) gets first position and Osmania (30) second. In Kerala the first rank goes to Kerala University (67 JRFs) and second to Calicut University (28 JRFs). In Karnataka, Bangalore (11) is found to be first and Mysore (7) second. Among all the States of southern region Kerala (111) stands first in this context. Next comes Andhra Pradesh (103) and then Tamil Nadu (73) followed by Karnataka with only 23 JRFs.

Total number of JRFs for all the 8 States of eastern region was 215, Orissa getting 110, West Bengal 91, Meghalaya 10, Assam 3, Manipur 1 and all other zero.

Of all the States of eastern region Orissa produced the largest number of JRFs (110) which is 50 per cent of the total for this region. Next to Orissa comes West Bengal with 91 JRFs. All other States only nominally make their appearance. In Orissa, Utkal (87) and in West Bengal, Calcutta (68) Universities occupy the first position. Sambalpur comes to occupy second position in Orissa but third in the region.

In the West, Maharashtra with 7 Universities could get only 65 JRFs, the largest number (33) going to Poona University and Bombay University coming next to that with only 20. All other universities made only negligible contribution. In Gujarat only Bhavnagar University added 23 JRFs, all others making little contribution. Even M.S. University, Baroda, could get only 6 JRFs during these years. The total number for western region could be only 67.

The only State of the central region, Madhya Pradesh, with 7 universities in the JRF map had its share of only 23 JRFs. Bhopal university contributed to this only 8 JRFs, the highest among all the seven universities. Besides Bhopal, all other universities got only between 1 to 4.

Concluding Remark

It is left to those who feel concerned with university education to think what inferences can be drawn from this data and what implications they have for improvement of the system. Quality of teaching-learning may be just one of the reasons of good and poor performance of the universities on these tests. There may be a host of other factors responsible for this. The universities should themselves find out the reasons and should make efforts to help their students get as much as possible out of this most beneficial scheme.

Crisis of Civility

Prof. Upendra Baxi, Vice-Chancellor, University of Delhi, delivered the Convocation Address at the annual convocation of the University of Manipur, Imphal. Speaking of a kind of malignancy with which our campuses are aflicted that "all of us — students, teachers, karamcharis — more often than not tread on the toes of each other", Prof. Baxi said, "It is not that we are not aware of the crisis of civility in our campus cultures. Indeed, we talk about it from time to time. And we insist on the norms of civility, even if in politically partisan ways, from time to time. But, by and large, apathy overtakes honest agony at the growing crisis of civility". He added, "Our campuses are marked by moral majorities which however, prefer to remain silent. But a silent moral majority is not a change agent. Indeed, its inarticulateness endangers the very idea of a University, an idea which is civilizationally precious". Excerpts

A University is certainly a site for friendship, sharing joy and being together and perhaps convocation occasion provides one condensed collective moment in the temporal rhythms of the University where the mainsprings of friendship, sharing joy and togetherness manifest themselves dramatically.

But if one interrogates the traditions of Indian universities and the growth of campus cultures in the recent times one is struck by a sense of decline of these very ideas. Can we really say that Indian campuses are joyous communities? When I was asked what were my priorities on the assumption of the Vice-Chancellorship of Delhi University I had mentioned two : my first priority, I said, was to see many more happy faces on the campus and my second priority was to enjoy my assignment! Insofaras this observation was taken seriously, as it was intended to be, it was considered a very curious statement.

But we all know that our campuses are beset with a kind of malignancy arising from a multitude of big and small factors. It seems that all of us — students, teachers, karamcharis — more often than not tread on the toes of each other. Verbal aggression, name-calling and even shouting downright abuse is the order of the day. Even worst forms of physical aggression abound. Stabbing incidents are common in many of our campuses. And ragging which seems to be some people's idea of fun creates situations which often result in student fatality; in any case, severe psychic distress, especially in terms of self-image and self-esteem haunts the victim for a long time. Sexual harrassment of women on campuses is also increasing alarmingly. Campus cultures also reflect pronounced tendencies towards denigration of others, often quite malicious. Perhaps, this syndrome may be described as niskham ninda (desireless denigration), the opposite of niskham karma (action unaccompanied by desire of gain) the *Gita* proselytized.

It is not that we are not aware of the crisis of civility in our campus cultures. Indeed, we talk about it from time to time. And we insist on the norms of civility, even if in politically partisan ways, from time to time. But, by and large, apathy overtakes honest agony at the growing crisis of civility. Private distress is not matched by public outrage. Our campuses are marked by moral majorities which, however, prefer to remain silent. But a silent moral majority is not a change agent. Indeed, its inarticulateness endangers the very idea of a University, an idea which is civilizationally precious. And a society which progressively loses the idea of University is indeed a society without a future, if future is to be conceived as the shape of a struggle for just transformation by men and women of compassion, dignity and learning.

I said a moment ago that moral majorities on Indian campuses were inarticulate. This must be qualified by two caveats. They are not, quite naturally, inarticulate in pursuit of individual or class/collective interest. The rationality of self-interest is powerful enough for all of us to break our mauna (vow of silence) when the occasion demands this. But more important, even the moral majority is a participant in nishkam ninda. The leaders of moral majority — be they teachers, students, karamcharis — are extremely articulate on one theme: lamentation on 'politicization' of our campuses, on 'lumpenization' and 'criminalization' of politics and on the decline of values, summed up as a loss of national character.

All of us are very generous with denigration of politics and politicians, as individuals and as a class.

And I know, as we all do, that there is a lot that is wrong in the practices of Indian politics. But the continuous condemnation of practices of politics is, I believe, unjustified as well as harmful to the future of democracy in India. We must strive to correct and chasten arrogance of power. But to denounce politics and politicians as a class is, simply, anti-democratic. For, liberal democracy requires dedication to politics; doing of politics requires men and women to shun other career paths; without some people opting politics as career – consuming them in the process, the pursuit of other careers – including academic careers – would simply be impossible. In its most ideal sense, democratic politics is sacrificial, although existentially, pursuit of politics may not be seen sacrificial anymore.

But whatever be our judgment on the nature or career in politics this much ought to be clear : liberal democracy requires men and women who would pursue power for its own sake and seek to justify this pursuit in cogent languages of national interest. Without a will to power and a rhetoric of legitimation no successful practice of politics or career in politics is ever possible. Only in India an observation that politicians are "power-hungry", "power-brokers" would be regarded as gem of wisdom. It is as profound as an observation which condemns a capitalist for making profit!

I beg you on this occasion to think of democratic politics more seriously. If you think that politics is bad, what's the answer to bad politics? One answer enamouring many a practitioner of politics is that no politics is better than 'bad' politics; that is the royal road to authoritarianism. But there is another answer to the question of 'bad' politics. And that is : "more politics". By "more politics" I mean great civic participation in the affairs of the State. Name-calling, maligning, gossiping, condemning politicians as a class is, in my opinion, not civic participation, but its precise opposite : a mean-minded evasion of responsibility of knowing and doing things for the nation.

Universities are sites for expansion of consciousness, accesses to millennial traditions of thought, development of scientific outlook, and creatively compassionate engagement with national renewal. We should bring the great human heritage that we name as university to bear on our understanding of practices of politics and seek to transform its nature and direction where necessary. This cannot be done by lung power, muscle power, or trigger-happy verbal aggression. We need to bear our civilized understanding to this great task and a dignity of discourse marked by humility.

And this virtue of humility should arise from introspection within our own campuses. Have we been able to exercise freedom of choice, relatively free from the arm of politics, rigorously within our domain. Have we demonstrated the necessary qualities of moral imagination and academic examplarship in ways which not merely sustain our heritage but enrich it for future? Are practices of academic power within the Indian campuses informed by values and virtues whose lack we constantly bemoan in others? Have we too readily succumbed to temptations which we would like others in public domain to valiantly resist. What is the transformative potential of practices of knowledge for practices of power? Or is there manifesting, over time, an impermissible degree of unity between the practices of knowledge and practices of power? If the latter is the case, should we not begin to understand the criticism of politics as our agony at our own selves?

These uncomfortable questions must be on our agenda. And we should all discuss them with patience, courage and candour. I believe that even a modest growth of determination to place such live questions on our collective consciousness will give hope for overcoming the crisis of civility on our campuses. And, as I said a little while ago, recovery of civility and of dignity of discourse on our campuses is important for the Indian future. It is important if we are to cease to be "modern educated saints" whom Karl Marx witheringly criticized more than a century ago when he wrote : the classical saint of Christianity mortified his body for the sake of salvation of the soul of masses; in contrast, the modern educated saint mortifies the bodies of the masses for the sake of his own salvation.

If we have to choose between models of saintliness, Marx should be our unfailing guide. Indian campuses, in their search for renewal, need to move in the direction of ever greater social engagement and commitment. We should be moved, in thought and action, by everyday misery of the Indian impoverished; we should find ways, in everything we do in our campuses, to express solidarity in struggle against vicious forms of deprivation, dispossession, disadvantaging to which hundreds of thousands of our fellow beings are subjected – by society and State. In addition to being progenitors of well-bred, well-manicured critiques of power, Indian campuses should themselves be producers of alternate social consciousness and of visions of justice.

It is true that, "it is not given to any generation of men to complete the task of human improvement and redemption." But it is also equally/true that "no generation is free, either, to desist from them." This generational commitment carries the reminder that the attainment of social justice involves a series of tasks, none of which is accomplished by recoiling at the arrogance of power. We should also recall that tasks of justice are often performed best through quiet looking acts of struggle in one's own academic niche. That niche is secured by practices of power oriented to the Indian Constitution.

Towards the end of his luminous career Albert Einstein said: "Politics is harder than physics." And education conceived as constitutional politics directed to escalate transformative potential of future generations of Indian citizens is even harder than the politics of will to power for domination and subjugation of men and women. This is the reason why academic freedom is the most *difficult* freedom of all. And a university constitutes a permanent invitation for us all to exercise and enjoy this freedom.

Conference on National Integration

The Centre for Comparative Studies of the Telugu University recently organised a three-day National Conference on 'National Integration : Bhakti Movement'. The aim of the Conference was to project 'Bhakti', both as a literary theme and a social philosophy as well as a movement and its contribution to the spirit of cultural and emotional integration among the people of India, through several centuries.

The seminar was inaugurated by His excellency the Governor of Andhra Pradesh, Sri Krishan Kant, while the keynote address delivered by Prof. C.D. Narasimhaiah of Mysore. Prof. C. Narayana Reddy, Vice-Chancellor, Telugu University, presided over the inaugural function.

The papers presented at the conference ranged from 'Sri Madbhagavatam to Ramanamam' in Telugu Folk Poetry. All religions, namely, Vaishnavism, Saivism, Budhism, Jainism, Sikhism, Christianity, Islam, and their impact on Indian literature and culture were dealt with extensively. Apart from the regular sessions on (1) Historical perspectives, 2) Philosophical dimensions, 3) Social relevance, and 4) Aesthetic manifestations, there was a special session on Potana, Srivallabha and Suradas, with regard to their contribution to the Bhakti Movement. A workshop on 'Comparative Indian Literature' was also organised on the occasion. All the papers in the Seminar, in one way or the other, highlighted the influences and inter-relations between Bhakti and national integration, with reference to individual poets, individual works and comparative analysis. It was an attempt at bringing together various disciplines, religions and academic institutions in realising and propagating national integration through Bhakti Movement as depicted in literature.

Over 170 delegates from the Universities of West Bengal, Delhi, Punjab, Uttar Pradesh, Karnataka, Tamil Nadu, Bihar, Orissa and Andhra Padesh participated in the conference.

Andhra University Convocation

His Holiness the Dalai Lama, Nobel laureate and the spiritual leader of Buddhists, exhorted scholars and students to acquire "real wisdom" and ability which formed the basis of human thinking. Addressing the 62nd Convocation of the Andhra University at Visakhapatnam, the Dalai Lama said that in a world disturbed by extraneous considerations, the people should exhibit the qualities of compassion, forgiveness, love and humility for the well-being of the entire mankind. He cautioned them against imitating Western civilisation blindly and said the greatness of our traditions was that they could survive all types of onslaughts. The Dalai Lama complimented India for following the path of non-violence, which he thought was the only "remedy" to "better the world situation" now.

Presenting the annual report Dr. M. Gopalakrishna Reddy, Vice-Chancellor, gave a resume of the achievements of the University during the past academic year. Dr. Reddy outlined the University's effort to update and modernise the curricula of various courses being offered. He also announced the regular publications of a newsletter by the University in the near future.

The University had undertaken sixteen building projects worth Rs. 201.10 lakhs, he revealed. He also outlined the proposal to institute endowment lectures commemorating the contribution of Dr. C. R. Reddy, Dr. Sarvapalli Radhakrishnan and Dr. V. S. Krishna, the distinguished Vice-Chancellors of yester years.

The Vice-Chancellor explained the innovative ideas introduced at the Academic Staff College such as modified micro teaching exercises, use of video equipment and other sophisticated educational technology, introduction of weekly assignments, and presentation of seminar papers by participants on the topic of their choice. He stressed the need for research on the issues related to the country's socio-economic development of greater relevance.

150 Ph.D., 95 M.Phil, 1,250 postgraduate degrees and 135 Gold Medals were awarded to the students by Mr. Krishna Kant, Governor of Andhra Pradesh and Chancellor of the University, who presided over the Convocation. An Honorary Degree of Doctor of Letters was also conferred on the Dalai Lama.

Dr. Roby Kidd Lecture

"The very heart of adult education is learning. In adult education we attempt to balance the logical self with the emotional self," said Dr James A. Draper, Professor, Department of Adult Education, the Ontario Institute for Studies in Education, Toronto, while delivering the first Roby Kidd lecture in New Delhi recently.

The lecture was organized by the Roby Kidd Foundation and the Indian Adult Education Association. Dr Draper was speaking on "The Dynamic Mandala of Adult Education". He has advised a number of universities on adult education in India including the University of Madras where he wrote the draft statement for establishing a new department of adult and continuing education. Dr James Robbins (Roby) Kidd (1915-1982) was the Director of the Candidan Association for Adult Education and the Founder of the International Council for Adult Education.

Dr Draper described Roby Kidd as an "exceptional leader of adult education". He added that adult education permeated all of man's social structure. We can have learning without education but we cannot have education without learning. Dr Draper observed that every person had experienced some form of education even though he may not have gone to school and that every education was continuing education.

Dr Draper added that in adult education, the distinction between the teacher and student becomes inter-changeable as each person had something to teach. Adult education was important to fulfil the need to democratize society and improve the quality of life within the framework of universal human rights.

The professor added that an innovative programme of adult and continuing education begins with a vision of the future. He said a world-view of adult education must be adopted as it helps create a common denominator for seemingly diverse programmes concerning education, family planning and agriculture. A broader view helps find the potential of employment opportunities in adult education.

Mr K.C. Choudhary, General Secretary, Indian Adult Education Association, said the development of the human being was the main concern of Roby Kidd and he lived and died for this cause.

Modernising Vocational Training

A World Bank-assisted project to modernise and update the national vocational training system has been taken up to ensure a steady flow of adequately trained manpower to meet the changing needs for skills by the industry.

It will also equip the vocational training system to cope with the highly advanced technologies being introduced in India at an accelerating pace.

At present, 2,240 industrial training institutes (ITIs) with a total capacity of about 3.70 lakh seats run courses in 40 engineering and 27 non-engineering trades in accordance with the standards set by the National Council of Vocational Training.

Vocational training improves employability and productivity of the labour forces. The ITI infrastructure was also utilised for the TRYSEM (training for rural youth for self-employment) programme.

The ITIs in certain States and Union Territories such as Haryana, Himachal Pradesh and Delhi conduct non-formal, short-term courses for development of skills.

Practical training at the shop-floor is provided under the Apprentice Act in 128 trades in 218 industries. The training capacity is about 1.85 lakh seats for trade apprentices and 48,706 seats for graduates/technicians apprentices.

A small network of advanced training institutes provides advanced level training in different fields to the workers employed in industry for updating their skills.

The programmes for the rural poor, were the integrated rural development programme (IRDP) and its two sub-programmes – training for rural youth for self-employment (TRYSEM) and development of women and children in rural areas (DWCRA) and the wage employment programmes – national rural employment programme (NREP) and the rural landless employment guarantee programme (RLEGP), later merged to form the Jawahar Rozgar Yojana (JRY) in 1989-90.

During the Seventh Plan period, 18.2 million families were assisted under IRDP and the wage employment programmes (NREP/RLEGP and JRY) generated 3,497 million mandays of employment.

The self-employment programme for the urban poor (SEPUP), which was launched in September, 1986, now covers all cities and towns with a population of 10,000 and above and areas not covered by the IRDP.

Under the scheme, loans up to Rs. 5,000 are provided by banks to the urban poor for taking up useful economic ventures with the Central Government providing a capital subsidy of 25 percent of the total loan.

From 1992-93, the SEPUP will be merged with the scheme of urban enterprises (SUME) under the

Nehru Rojgar Yojana (NRY).

Seminar on New Economic Policy

Dr. K. Jayashankar, Vice-Chancellor, Kakatiya University, inaugurated a symposium on 'New Economic Policy & Industrial Relations' organised recently by the Department of Public Administration of the University at Warangal. Stressing the importance of private sector in the development of Indian economy, he said that at the same time, the role and significance of the public sector in Indian situation could not be totally ignored and added that drawing a parallel between Indian and Soviet experiences was not very much relevant.

Dr. Jayashankar said that the economic policy of India had all along been hinging around the Nehruvian model which provided for public sector controlling the commanding heights of the economy. However, the merits and demerits of this model had always been under debate, he felt.

Dr. Jayashankar observed that one of the major criticisms against Nehru model of mixed economy was that it had, by and large, provided for privatisation of profits and nationalisation of losses. It had become more pronounced after the collapse of the Soviet model,he concluded.

The symposium was organised to mark the introduction of postgraduate course in Personnel Management & Industrial Relations at the Kakatiya University.

IIM Lucknow Convocation

Dr. C.P. Srivastava, Secretary-General Emeritus, International Maritime Organisation, UN and the founding chancellor emeritus, World Maritime University, UN, was the chief guest at the convocation of the Indian Institute of Management, Lucknow. Addressing the gathering, Dr. Srivastava said : "If things had moved ahead with integrity and efficiency, India by now would have been one of the most advanced countries in the world. Unfortunately within a decade of independence things began to get distorted."

"The state soon became a combine of the politician and the bureaucrat. At present we have a shackled, inefficient and corrupt economy. The only way to get out of this morass is to abolish all unnecessary controls and to open the economy to competition. Fortunately, the new government has shown remarkable political courage in identifying the basic problem."

Dr. Srivastava said that he planned to set up a national forum for the development of excellence in India. There will be no fees for joining the forum, only a commitment to the pursuit of excellence, he added.

The chairman of the Board of Governors Mr. H.S. Singhania conferred the diplomas and also the special awards. Mr Singhania also addressed the students and said that managers whether in the private or the public sector must learn to work in competitive conditions. "It is time we gave up the fragmented view of the market. There is one single market, the global market. We are part of it. We should have a global vision and be prepared to compete and succeed both in the domestic and world markets", he added.

Mr Singhania said that the students bore a special responsibility towards society as their education was highly subsidised. While the cost of teaching per student was about Rs. 70,000, the academic fees charged was about Rs 10,000 only, he pointed out.

Prof. J.S. Rao, Director, said that despite the institution being at its initial phase, it has done commendable work. The intake of students is expected to reach 120 next year and the plan is to admit 180 by 1995. An M.Phil. programme for the management teachers of the universities is also in the offing. A fellowship programme, an executive development programme and an in-company programme are some of the schemes that are scheduled to be evolved in the plan period.

Summer School on Use of Statistical Software

The Indian Statistical Institute will organise a three week Summer School on Use of Statistical Software on its Calcutta campus from June 1 to June 19, 1992. The object of the School is to introduce research workers and university teachers to computer-oriented statistical methods and to train them in the use of statistical software packages. Applicants wishing to participate should have at least a Master's degree in Statistics from a recognised University/Institute and be engaged in research and/or teaching at the postgraduate level. This course is not for those engaged in undergraduate teaching.

The School will mainly concentrate on the use of various packages for data analysis and to study their relative merits for each analysis. Standard statistical packages including BMDP,SPSS,IMSL, MINITAB and NAG will be used. Topics to be discussed in the School include Linear and Nonlinear Regression Analysis, Loglinear and Logistic Regression Analysis,Factor Analysis, Multivariate Analysis of Variance, Discriminant Analysis, Cluster Analysis and Time Series Analysis. Participants will be expected to know the basic methodology of these techniques and only recent developments and special aspects of these topics implemented in the statistical packages will be discussed in the methodology part of the school. The course will consist of lectures followed by demonstrations and hands-on sessions. Participants will get ample opportunity to use the computer and the packages for practice. Participants are encouraged to bring their own data sets for the practical sessions.

There is no fee for the School. Participants will be provided free board and lodging on the Institute campus for the entire period of the School. Intending participants should seek financial support from grant-giving bodies for travel. Last date for receipt of prescribed applications by the Course Director, Summer School on Use of Statistical Software, Computer Science Unit, Indian Statistical Institute, 203 Barrackpore Trunk Road, Calcutta-700035 is March 31, 1992.

Workshop on National Movement

'Post-Independent India is faced with certain phenomena like the rise of militancy, naxalism, casteism, dalit and tribal problems which should be carefully and critically appraised so that a proper perspective on these problems could be given in our historical studies', said Prof. Sarojini Regani, a former professor of History, Osmania University. She was inaugurating the 15-day workshop on 'Indian National Movement', organised recently by the Department of History of the Kakatiya University. The workshop was sponsored by the Indian Council of Historical Research, New Delhi.

Referring to the interpretation of History by the different Schools of Thought, Prof. Regani said that a true historian was one, who studied and understood them all and came out with his own writings giving an impersonal treatment to history. According to her, freedom of thought and freedom from fear and suppression are the prerequisites to interpret history properly and realistically.

Prof. Regani added that workshops of this nature would go a long way in enabling the scholars not only to develop wider horizons in their knowledge and understanding of history but also to exchange ideas and thoughts in a meaningful manner.

Fifty scholars representing different universities and research organisations all over the country participated in the workshop.

AIIMS Convocation

Specialised institutions like the All India Institute of Medical Sciences (AIIMS) have an important role to play to achieve the "Health-For-All" target by the turn of the century. It being an institute to train teachers for different medical colleges in India, the more and more students qualifying from here should undertake the task of imparting medical education all over the country, observed Dr. Shanker Dayal Sharma, Vice-President of India while addressing at the 24th convocation of All India Institute of Medical Sciences in New Delhi recently. Dr Sharma said their combination of up-to-date knowledge and practical experience and insights in the medical profession would go a long way in helping the medical education system of the country. With this in mind growth plans for every individual as per his special aptitude, training and experience should be formulated which would also need a new approach to personnel management.

Dr Sharma said India had some of the finest medical minds and the systematic publication and dissemination of the Indian medical experience through specialised organisations like AIIMS could be of great importance in taking the medical sciences forward. He appealed to the institute authorities to provide all possible opportunities and resources to the doctors to take benefit from their experience.

He also urged the Government to provide the latest equipment to institutions like AIIMS to stop the brain drain. This would prevent the researchers and doctors from going to other countries for research and provide them job satisfaction.

He said it was heartening to know the AIIMS till date had produced 1500 medical graduates, about 3500 postgraduates and almost 600 nursing persons fully trained. The initiative of the AIIMS authorities in diverse connected disciplines had made a significant contribution to the overall quality and scope of medical education in the country.

Speaking on the occasion, Union Health Minister Shri M.L. Fotedar, said efforts were being made to restore the referral character of the institute by setting up a screening OPD near the main campus. The institute is also being provided NMR facility at a cost of Rs 15 crores which will become operational in the next financial year.

264 degrees in medical and paramedical disciplines including superspeciality courses were awarded to the candidates at the convocation.

UPSC : Satish Chandra Committee Recommendations

Medical Science is to be introduced as one of the optional subjects in the civil services examinations conducted by the Union Public Service Commission with effect from 1993.

According to Personnel Ministry, this is in acceptance of a recommendation made in the report of the Professor Satish Chandra Committee set up by the UPSC to review the present scheme of civil services examinations. The Committee had been set up in pursuance of a report of Estimates Committee of the Seventh Lok Sabha.

The Government has also accepted a recommendation that doctors and engineers should continue to be eligible for the examination.

A recommendation that some of the group "A" services and the group "B" services should be delinked from the examinations has not been accepted and the Government has decided to maintain status quo.

The Government had accepted a recommendation for introduction of an essay paper of 200 marks in the main examination. Satish Chandra Committee said that candidates could be allowed to answer this paper in English or any one of the Indian languages included in the Eighth Schedule of the Constitution.

The optional papers related to the French, German, Russian and Chinese languages are to be deleted from the syllabus for the main examination.

Another recommendation accepted by the Government is that the Scheduled Caste and Scheduled Tribe candidates who qualify in the general merit list without having availed of age concession and concession in terms of chances should be treated as general candidates and should not be set off against reserved quota.

Challenges in Defence

Dr. V.S.Arunachalam,Scientific Advisor to Defence Minister and Secretary, Department of Defence Research and Development, gave an Institute Colloquium lecture on Technology Challenges in Defence recently at the IIT, Bombay.

Giving an historical perspective on defence development, Dr.Arunachalam spoke of technology gaining significance after the Ist World War, the culmination of which was seen in the recent Gulf conflict. Developments in weapons systems, missiles systems, communication etc. today, has made the rule that the country which has the technology is the winner.

Indira Gandhi National Open University

Schedule of Telecast for the period 1 April to 30 April

6.30 AM to 7.00 AM

DATE/ DAY	ACADEMIC PROG.	TITLE & COURSE
1.4.92 Wednesday	Creative Writing (DCE)	Creative Writing - An Introduction
3.4.92 Friday	Management (MS)	Institution Building
6.4.92 Monday	Bachelor's Degree Programme(BDP)	Curves
8.4.92 Wednesday	Application Oriented Course in Translation(ATR)	Translating Tagore
10.4.92 Friday	Management (MS)	Turnaround Strategy
13.4.92 Monday	Bachelor's Degree Progrmme(BDP)	Wakron ki Jyamiti
15.4.92 Wednesday	Food & Nutrition (CFN)	Nutrition During Pregnancy
17.4.92 Friday	Management (MS)	Implementing Corporate Plans – Some Reflections
20.4.92 Monday	Bachelor's Degree Programme(BDP)	Linear Transformation
22.4.92 Wednesday	Bachelor's in Lib. &Info.Sc.(BLS)	Dewey Decimal Classification Pt. VII
24.4.92 Friday	Management (MS)	HRD and Workmen
27.4.92 Monday	Bachelor's Degree Programme(BDP)	Raikhik Rupantaran aur Avyuh
29.4.92 Wednesday	Computers in Office Mgt.(DCO)	History of Computers

We need right now to be self reliant rather than self sufficient, Dr.Arunachalam said. He described some of the defence projects undertaken by the Defence Research establishments, including the weapons system, 'rail gun', radar systems, Agni missiles etc.

The defence research programme looks to institutions such as IITs for research and development inputs and said he looked forward to closer cooperation with the Institute.

Women's College Sports Day

Dr. K. Jayashankar, Vice-Chancellor of the Kakatiya University, was the chief guest at the "Sports Day" and "Literary & Cultural Activities" organised at the Govt. Pingle College for Women. Speaking on the occasion, Dr. Jayashankar said,"The percentage of literacy in the country continues to be very low even after 45 years of independence. It is a vast area where we have to do much more than what we have done all these years."

He said that history had shown throughout the world that women proved better than men in every sphere of activity and emerged powerful and competent leaders the world had seen in the recent past. Paradoxically the percentage of literate women in the country was at the lowest ebb and a lot more needed to be done to increase the literacy rate, he said. Dr. Jayashankar expressed the hope that the girl students of the Govt. Pingle College would excel in every field of activity vying with men.

Mrs. S. Swathi, General Captain of the College, presented the report on the games and sports activities while Mrs. Shakuntala Sudershan, on the literary and cultural activities.

In his presidential address Mr. C. Rajagopal Rao,Principal of the College said there was no dearth of talent among the girl students. The only thing was that they should be spotted and encouraged and added that 15 girls represented the Kakatiya University in various games and sports activities and many of them were captains of the teams.

Change in Universities

Prof. David Thorley, Dy. Dean, School of Engineering, City University, London, spoke on "Responding to change in Universities at the IIT, Bombay, recently. Prof. Thorley had been actively involved in the tremendous change that higher education in the United Kingdom has seen in the last 10 years or so. He gave an enlightening perspective on how change in educational policy puts pressures on Universities to correspondingly evolve new systems. These have involved significant organisational changes, development of new courses, need to reconcile conflicting demands of teaching and research.

Prof. Thorley also threw light on the role and duties of academic and support staff and the changing academic profile of the Institution. Based on the experiences of City University, Prof. Thorley discussed the opinion that his University has much in common with IIT, Bombay, which he felt was in the same phase as his University was 10 years ago.

Free Technical Education for Girls

The Haryana government has announced free education for girl students in all ploytechnic institutes and extension of maternity leave from three to six months. This announcement was made by the Chief Minister, Mr. Bhajan Lal, in Karnal, recently. He also announced a series of schemes for the upliftment of women and said the State Government had decided to set up four women cooperative banks at Gurgaon, Hisar, Rohtak and Karnal.

News from Agricultural Universities

HAU Plans New Courses

Haryana Agricultural University is reported to have decided to start an MBA (Agriculture) course from the next academic session. This was disclosed by the Vice-Chancellor, Dr. Amrit Lal Chaudhary recently.

There would be 15 seats in the course, which would be filled through an open test in June. He said that the minimum qualification needed for admission would be graduation in any discipline though the course would have a bias towards agriculture. The modalities of the test are yet to be worked out, but there would be neither any rural quota nor any insistence upon an applicant being a domicile of Haryana.

Initially, MBA (Agriculture) would be a part of the Department of Agricultural Economics of the College of Agriculture, but, later, it would be given the status of a separate department.

Dr.Chaudhary said that the university would also start a one-year diploma course in computer science. The course would have 20 seats and the minimum qualification needed for admission would be graduation in any branch of agriculture. It would be a part of the department of mathematics of the College of Basic Sciences.

The College of Agriculture at Kaul in Kurukshetra district, according to Dr.Chaudhary, would start postgraduation programmes in plant breeding and agronomy with rice being the thrust area.

Dr.Chaudhary said that HAU was likely to receive a substantial chunk of money through a 100 million dollar IDA World Bank project for human resource development. Five universities had been identified for this purpose and HAU was the sole university from North India among them. The project was aimed at enhancing the capabilities of the scientists to meet the challenges of 2000AD and beyond.

Weed Science Conference

More than 175 scientists from all over India participated in the 5-day annual Weed Science conference concluded recently at Chaudhary Charan Singh Haryana Agricultural University, Hisar. In this conference, the participating delegates reviewed the research work achieved so far by the weed specialists and finalised the weed management strategy to be adopted in different regions of the country.

Dr. A.L. Chaudhry, Vice-Chancellor, who inaugurated the conference, said that serious weed problem in different cropping system had raised the hopes of drastic measures to break the yield barriers. He emphasised the need to adopt integrated approach for breaking the yield barriers in different crops.

Dr. R.K. Malik, Organising Secretary of the conference, highlighted the research work done by the university weed specialists. He said that wild oat (Junglee Jai) had assumed a major threat in increasing the wheat production. Researchers have established that climatic factors have been found responsible for poor efficiency of wheat herbicides.

News from Abroad

Incentive for Excellence in Teaching

Universities in England will be able to get more money and more students by increasing the quality of their teaching, according to Graeme Davies, Chief Executive of the University Funding Council(UFC).

Addressing the joint meeting of the Royal Society and the British Academy Prof. Davies said that institutions which can prove that their teaching is of high quality will in future be able to get new money by two different routes. They will be allowed to increase student numbers and will also be given money directly to reward the quality of their teaching. In the past, quality assessments have been used only for allotting research funds.

He said : "We are now carrying out a pilot exercise on assessing teaching quality. The aim is to identify very poor and very excellent teaching institutions, and to reward the good ones. Possibilities we are looking at include allowing such institutions to take on more students at an enhanced rate."

It is also likely, he said, that such money may go to small departments, and institutions which offer quality teaching. By contrast, research money is being steadily concentrated.

Institutions wanting to improve their teaching will also be able to bid for part of the money that the UFC is putting into its teaching technology initiative.

Professor Davies said: "The first £5 million of this money will be awarded in the coming year, and I am confident that the new higher education funding bodies will put similar sums into it in the following two years."

UNIVERSITY NEWS

Form IV

(See Rule 8)

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The library is particularly strong in its collection of reports whether they are on the setting up of different universities or on the state of higher education. Files of annual reports of different universities are also maintained. Readers are kept informed of the latest acquisitions through our column 'Additions to the AIU Library'.

The library receives about a 100 periodical titles on higher education. All these are indexed regularly and a select list appears every month as 'Current Documentation in Education'. Similarly our column 'Education News Index' reports editorials and articles on higher education published in over 20 newspapers that are received in the library from all over the country.

The library is steadily building up a collection of audio and video cassettes on matters educational and maintains a well appointed Audio-Visual Room equipped with a double deck audio cassette recorder, a VCR and a colour TV monitor, and an overhead projector.

Doctoral Degrees awarded during the preceding month are reported as 'Theses of the Month', while registrations made for such degrees are flashed as 'Research in Progress'. Bibliographies are also compiled and supplied on demand.

Research Scholars and students of education are welcome to use these resources. The Library is open from 9.00 a.m. to 5.30 p.m. Monday through Friday. Access can also be had through inter library loan for which requisition must be made through your Librarian.

RESEARCH IN PROGRESS

A list of Research Scholars registered for Doctoral Degrees in Indian Universities

SOCIAL SCIENCES

Psychology

1. Nagpal, Anita. **A study of role stress and organizational commitment in bank managers in relation to their personality, motives, managerial styles and organizational climate.** Panjab. Dr J N Jerath, Department of Psychology, Panjab University, Chandigarh.

Sociology

1. Prit Paul Kaur. **Legal pluralism and dispute settlement in Rural Panjab: A sociological investigation.** Panjab. Dr (Mrs) Raj Mohini Sethi, Department of Sociology, Panjab University, Chanidgarh.

Social Work

1. Bet, V P. **A study of the need for social work practice in the industries in Solapur City.** Shivaji. Dr M S Makandar, Walchand College of Arts and Science, Solapur.

2. Bhosale, Anilkumar Vasantrao. **A study of industrial relations in Maharashtra State with reference to implementation of I R S Legislation in Solapur and Kolhapur Districts.** Shivaji. Dr G V Dingre, Block No.11, Gangadhar Housing Society, Solapur

3. Sengupta, Swapna Satyaranjan. **The psychosocial problems of HIV infected individuals: Persons with AIDS and their kinsfolk.** Shivaji. Dr A D Madgulkar, Chhatrapati Shahu Central Institute of Business Education and Research, Kolhapur.

Political Science

1. Agrawal, Savita. **Socialization to politics: A study of women students of Banasthali Vidyapith and University of Rajasthan - Campus - Jaipur.** Banasthali. Dr S B Mathur, Reader and Head, Department of Political Science and Public Administration, Banasthali Vidyapeeth, Banasthali.

2. Punia, Kiran. **Administative elite and political development in India, Rajasthan: A case study.** Banasthali. Dr S B Mathur, Reader and Head, Department of Political Science and Public Administration, Banasthali Vidyapeeth, Banasthali.

3. Sharma, Shiv Kumar. **Legislative elites in Himachal Pradesh, 1971-1990: A study of behaviour and performance.** HP. Dr Gopal Singh, Department of Political Science, Himachal Pradesh University, Shimla.

4. Yadav, Kalpana. **Who benefits from Governemnt expenditure: A case study of Rajasthan.** Banasthali. Dr Siddharth Shastri Lecturer, Department of Economics, Banasthali Vidyapeeth, Banasthali.

Economics

1. Ahirwal, Rewa. **Bharatiya State Bank ka grameen vikas mein yogdan: Damoh Jile ke vishesh sandarbh mein.** HS Gour. Dr M L Tripathi, Reader, Department of Economics, Dr Hari Singh Gour Vishwavidyalaya, Sagar.

2. Amardip Singh. **Acquisitive culture and environmental distruption: The Gandhian critique.** Panjab. Dr (Mrs) R S Puri,

Department of Gandhian Studies, Panjab University, Chandigarh and Dr A C Julka, Department of Economics, Panjab University, Chandigarh.

3. Bajpai, Sapna. **Bhilai Steel Sanyantra mein karyarat shramikon kee arthik evam samajik karyadashayon ka vishleshnatmak adhyayan.** HS Gour. Dr Hemlata Richhariya, Asstt Prof, Department of Economics, Government College, Deori.

4. Batra, Anju. **Economics of crop and livestock enterprises in Solan District of Himachal Pradesh.** HP. Dr A S Gularia, Department of Economics, Himacnal Pradesh University, Shimla.

5. Chaurasia, Vindhya Bala. **Madhya Pradesh mein Dugdh Vikas Karyakram: Sagar sambhag ke vishesh sandarbh mein.** HS Gour. Dr S K Pandey, Lecturer, Department of Economics, Dr Hari Singh Gour Vishwavidyalaya, Sagar.

6. Dixit, Meera Ramesh. **Industrial sickness in small scale sector in Satara District.** Shivaji. Dr D H Hindocha, Chhatrapati Shahu Central Institute of Business Education and Research, Kolhapur.

7. Dubey, Girish Mohan. **Shahri kshetra mein parivarik bachat vyavhar: Sagar Shahar ke sandarbh mein.** HS Gour. Dr M L Tripathi, Reader, Department of Economics, Dr Hari Singh Gour Vishwavidyalaya, Sagar.

8. Gadage, Rajaram Savanta. **A critical review of literature on poverty, 1960-1990.** Shivaji. Dr V B Jugale, Department of Economics, Shivaji University, Kolhapur.

9. Gavade, Pandurang Nagu. **A comparative study of cooperative agricultural credit in Jath and Walwa Talukas of Sangli District.** Shivaji. Dr J F Patil, Department of Economics, Shivaji University, Kolhapur.

10. Godare, Reena. **Damoh Jile ke vikas mein rajkiya arthik karyakramon kee bhumika.** HS Gour. Dr Sidheshwar Tiwari, Department of Economics, Kalma Nehru College, Damoh.

11. Gopal Dass. **Sagar Sambhag mein State Bank of India ka madhyam evam laghu udyogon kee vitt vyavastha mein yogdan.** HS Gour. Dr S K Pandey, Lecturer, Department of Economics, Dr Hari Singh Gour Vishwavidyalaya, Sagar.

12. Gosavi, Madhukar Narayan. **Study of the socio-economic conditions of hotel workers in Maharashtra.** Shivaji. Dr S C Bhanushali, 50, Mahalaxminagar, Kolhapur.

13. Hatti, Iranna Tippannappa. **A critical review of economic problems and prospects of cotton powerloom industry in Bombay-Karnatak Region: A case study of cotton powerloom industry in Rabkavi, Banhatti Area.** Shivaji. Dr T G Naik, Department of Economics. Shivaji University, Kolhapur.

14. Jain, Pradeep Kumar. **Hoshangabad Jile ke ekikrit grameen vikas karyakram ka vishleshnatmak adhyayan: Kesala adivasi vikas khand ke vishesh sandarbh mein ek adhyayan.** HS Gour. Dr J K Pathak, Asstt Prof, Department of Economics, Government Narmada College, Hoshangabad.

15. Kakade, Vijaykumar Bandoba. **Capacity utilization of cooperative sugar factories in Maharashtra.** Shivaji. Dr J F Patil, Department of Economics, Shivaji University, Kolhapur.

16. Khare, Shiv Kumar. **Audyogik vikas mein van sansadhanon kee bhumika: Chhatrapur Jile ke vishesh sandarbh mein.** HS Gour. Dr R K Rajoria, Asstt Prof, Department of Economics, Government College, Deori.

17. Kshetri, Kiran Paudel. **The role of public sector in manufacturing enterprises in Nepal.** HS Gour. Prof R Mehrotra,Head, Department of Economics, Dr Hari Singh Gour Vishwavidyalaya, Sagar

18. Lalita Kumari. **Dimensions of socio-economic disparities among the rural households in Mandi District of Himachal Pradesh.** HP. Dr Dalip Singh Thakur, Department of Economics, Himachal Pradesh University, Shimla.

19. Mehta, Reena. **Contours of urban poverty and urbanization in India: An empirical study with special reference to The State of Panjab.** Panjab. Dr A C Julka, Department of Economics, Panjab University, Chandigarh.

20. Minakshi. **An economic analysis of out-migration from rural areas of Bilaspur District, H P.** HP. Dr J P Bhati, Department of Economics, Himachal Pradesh University, Shimla.

21. Mohinder Singh. **Disparities in the distribution of household assets and consumption pattern: A study of progressive and less progressive rural areas of Bilaspur, H P.** HP. Dr N K Sharma, Department of Economics, Himachal Pradesh University, Shimla.

22. Naik, Snehlata. **Damoh Jile kee Nagar Palikayon ke vitt ka arthik adhyayan.** HS Gour. Dr Sudha Singh Sisodia, Kamla Nehru Mahila College, Damoh.

23. Nema, Rajender Kumar. **Madhya Pradesh mein laghu vanopaj ka utpadan, sangraha evam vipanan.** HS Gour. Dr Hemlata Richhariya, Asstt Prof, Department of Economics, Government College, Deori.

24. Paras Ram. **Inter-district disparities in the level of socio-economic development of Himachal Pradesh.** HP. Dr Narinder Kumar Sharma, Department of Economics, Himachal Pradesh University, Shimla.

25. Patil, Dilip Khanderao. **A study of economics of percolation tanks and their impact on agricultural development.** Shivaji. Dr V B Jugale, Department of Economics, Shivaji University, Kolahpur.

26. Rani Bindu. **Economics of production of foodgrain and other field crops: A comparative study in District Una of Himachal Pradesh.** HP. Dr Dalip Singh Thakur, Department of Economics, Himachal Pradesh University, Shimla.

27. Roy, Govind Singh. **Bharat Nepal arthik sambandh, 1970-1990.**HS Gour. Dr S K Pandey, Lecturer, Department of Economics, Dr Hari Singh Gour Vishwavidyalaya, Sagar.

28. Sharma, Keshav Ram. **Capital and credit needs under different farming systems of Himachal Pradesh.** HP. Dr J P Bhati, Department of Economics, Himachal Pradesh University, Shimla.

29. Shiv Dayal. **Tribal and non-tribal variations in rural poverty in Chamba District of Himachal Pradesh.** HP. Dr Dalip Singh Thakur, Department of Economics, Himachal Pradesh University, Shimla.

30. Suryawanshi, Anil Baburao. **A study of consumer cooperatives in Solapur District.** Shivaji. Dr V B Jugale, Department of Economics, Shivaji University, Kolhapur.

31. Thakur, Dilip Singh. **Madhya Pradesh ke rajkiya vitt ka arthik vishleshan, 1956-57 se 1989-90: Panchvarshiya jojana ke sandarbh mein.** HS Gour. Dr K C Jain, Lecturer, Department of Economics, Dr Hari Singh Gour Vishwavidyalaya, Sagar.

32. Upadhye, Trishala Tejpal. **Socio-economic study of women-headed households in Kolhapur City.** Shivaji. Dr (Smt) Leela R Patil, Shri Mouni Vidyapeeth, Gargoti.

Education

1. Ajitha, R S. **Development of models of teaching Zoology at tertiary level.** Kerala. Dr B Vijayakumar, Assoc Director, Academic Staff College, University of Kerala, Kariavattom.

2. Aljapurkar, Nayana Vijaysingh. **Personality profile of women sports participants and non-participants: A comparative study.** Shivaji. Dr V A Vaidya, Degree College of Education, Amravati.

3. Arya, Sumitra. **Kishoron mein naitik mulyon ka vikas: Ek prayogatmak adhyayan.** Banasthali. Prof Rajpal Singh, Head,

Department of Education, Banasthali Vidyapeeth, Banasthali.

4. Nair, Prema S. **Construction and testing of environment based models for teaching Botany at degree level.** Kerala. Dr J Exemmal, Asstt Director, Academic Staff College, University of Kerala, Kariavattom.

5. Paul, Annie. **Construction and testing of teacher - assisted modules in Health Science for secondary schools.** Kerala. Dr J Exemmal, Asstt Director, Academic Staff College, University of Kerala, Kariavattom.

6. Thiruppathi, V. **A normative study of the selected athletic events for the students of physical education colleges affiliated to Shivaji University.** Shivaji. Dr M L Gharote, Principal, G S College of Yoga and Cultural Synthesis, Kaivalyadham, Lonavala.

Commerce

1. Ashok Kumar. **Turn around plans for sick units in hotel industry: Case studies from H P.** HP. Dr (Mrs) Usha Sharma, Department of Management Studies, Himachal Pradesh University, Shimla.

2. Dhadwal, Pancham Singh. **Management of primary agriculture co-operative credit societies in H P.** HP. Dr Yoginder Verma, Academic Staff College, Himachal Pradesh University, Shimla.

3. Dharuv Pal Singh. **Problems and prospects of fruit-processing industry in Himachal Pradesh.** HP. Dr Bal Krishan, Department of Commerce, Himachal Pradesh University, Shimla.

4. Gowda, K Nanja. **Investment pricing and financial performance in Karnataka Electricity Board.** Gulbarga. Dr K V Prabhakar, Chairman, Department of Commerce, Gulbarga University, Gulbarga.

5. Jugal Kishore. **India's foreign trade with special reference to developing countries.** HP. Dr Balram Dogra, Department of Management Studies, Himachal Pradesh University, Shimla.

6. Narinder Nath. **Performance appraisal of regional rural banks in Himachal Pradesh.** HP. Dr Ramesh Kondle, Department of Commerce, Himachal Pradesh University, Shimla.

7. Noushad, P M. **Service co-operative banks in Kerala: An evaluative study.** Kerala. Dr M Sarngadharan, Reader, Department of Commerce, University of Kerala, Thiruvananthapuram.

8. Parmar, Jai Singh. **Industrial relation in public sector: A case study of Himachal Road Transport Corporation.** HP. Dr Suresh Kumar, Department of Management Studies, Himachal Pradesh University, Shimla.

9. Satinder Singh. **Industrial estates in H P: Performance appraisal and future prospects.** HP. Dr Kulwant Singh Rana, Department of Commerce, Himachal Pradesh University, Shimla.

10. Sharma, Punam. **The role of foreign aid in India's economic development.** HP. Dr Kulwant Singh Rana, Department of Commerce, Himachal Pradesh University, Shimla.

11. Sharma, Rajindra Kumar. **India's foreign trade with East European countries: Growth and prospectus.** HP. Dr Balram Dogra, Department of Management Studies, Himachal Pradesh University, Shimla.

HUMANITIES

Language & Literature

English

1. Augustine, Beena. **Romance and heroism in the folk ballads of North Malabar and England: A comparative approach.** Kerala. Dr P K Rajan, Reader, Institute of Correspondance Courses, University of Kerala, Kariavattom.

Sanskrit

1. Malviya, Akhilesh. **Bharatiya achar darshan: Vedic achar paramperayon ke sandarbh mein.** HS Gour. Dr Achutyanand Dash.

Hindi

1. Gupta, Krishna. **Bharatendu Harishchandra ke natyettar gadya sahitya ka adhyayan.** HS Gour. Dr Rajmati Diwakar, Lecturer, Department of Hindi, Dr Hari Singh Gour Vishwavidyalaya, Sagar.

2. John Panicker, V. **A critical study of the historical plays of Dr Ramkumar Verma, Hindi and Prof N Krishna Pillai, Malayalam.** Kerala. Dr Vellayani Arjunan, T C 15/622, "Anugraha", Udarasiromani Road, Vellayambalam, Thiruvananthapuram.

Marathi

1. Karogal. **Swatantrayottar Marathi kaviteteel anta pravah: V D Karandikar, Vasant Bapat va Mangesh Padgavkar yanchya kavyoachya anushangane.** Shivaji. Dr R G Bidkar, Sangameshwar College, Solapur.

Malayalam

1. Prasannan, K. **Contribution of Vidwan C S Nair to the Malayalam literary criticism.** Kerala. Dr D Benjamin, Reader, Department of Malayalam, University of Kerala, Kariavattom.

Geography

1. Chouksey, Preetam Kumar. **Foodcrop productivity in the Katangi Basin of Madhya Pradesh.** HS Gour. Dr Archana Bhargava.

2. Kranti Kumar. **Indian immigrant in the U S A: A study of origins and adaptations.** Panjab. Dr Swaranjit Mehta, Department of Geography, Panjab University, Chandigarh.

3. Mandlik, Manish. **Environmental determinants and malaria resurgence in Madhya Pradesh: A study in medical geography.** HS Gour. Dr Kailash Choubey, Lecturer, Department of Geography, Dr Hari Singh Gour Vishwavidyalaya, Sagar.

4. Shukla, Tribhuvan Mohan. **Dimension of rural electrification: A case study of Sagar Region.** HS Gour. Dr S K Shukla, Reader, Department of Geography, Dr Hari Singh Gour Vishwavidyalaya, Sagar.

5. Yadav, Satyendra Singh. **Uppar Narmada Valley: A diagnostic surveyed and geographical study in environmental changes.** HS Gour. Dr J L Jain, Lecturer, Department of Geography, Dr Hari Singh Gour Vishwavidyalaya, Sagar..

History

1. Jadhav, Sadhu Gorakh. **Dr Ambedkar and liberation of Indian women.** Shivaji. Dr D R Kamble, Department of History, Shivaji University, Kolhapur.

2. Kadam, Sanjeevani Babasaheb. **Life and work of Karmaveer Dadasaheb Gaikwad.** Shivaji. Dr B D Khane, Department of History, Shivaji University, Kolhapur.

3. Mishra, Sujay. **1917 kee October Kranti aur Bharatiya swatantrata sangharsh, 1917-1947.** HS Gour. Dr D C Sharma.

4. Sinha, Meena Kumari. **1857 and the role of Rani Lakshmi Bai.** HS Gour. Dr D C Sharma.

THESES OF THE MONTH

A list of Doctoral Theses accepted by Indian Universities

SOCIAL SCIENCES

Library & Information Science

1. Al-Haddad, Abdullah Ali. **Library and information system for Yemen Arab Republic: Present problems and model for future.** Delhi.

2. Ratnakar, A. **Trends in scientific communication in India through historic, sociometric and bibliographic analysis of the scientific journals in physical sciences specially Physics and Astronomy.** Karnatak. Prof M R Kumbhar, Prof and Chairman (Retd), Department of Library and Information Science, Karnatak University, Dharwad.

Psychology

1. Mishra, Ajaya Kumar. **Frustration of the middle level managers.** Delhi.

2. Shah, Anisha. **Assessment of marital life.** Bangalore. Dr K Sathyavathi, Additional Prof, Department of Clinical Psychology, National Institute of Mental Health and Neuro Sciences, Bangalore.

3. Thakur, Meeta. **Development of social competence as a function of residential locale, education and socioeconomic status of the parents.** Ravishankar. Dr O P Verma, Reader, School of Studies in Psychology, Ravishankar University, Raipur.

Sociology

1. Jagnayak, S S. **Role of libraries in socio-economic, cultural and educational development among rural people.** Kerala. Dr (Mrs) Indu Kumari M, Lecturer, Department of Sociology, University of Kerala, Kariavattom.

2. Jose Boban, K. **Changing medical and related ritual practices among the tribals: A study among the Muthuvans and Mannans of Idukki Districts.** Kerala. Dr Jacob John Kattakayam, Lecturer, Department of Sociology, University of Kerala, Kariavattom.

3. Mohammad Izhar Hassan. **Population preasure and agricultural change: A study of Bihar, Orissa and West Bengal, 1961-81.** JNU. Dr Aslam Mahmood, Centre for the Study of Rgional Development, Jawaharlal Nehru University, New Delhi.

4. Ramulu, N. **Political participation and social structure in two Telangana villages.** Osmania.

Social Anthropology

1. Haladipur, Surekha Ganapatrao. **A socio-economic study of weaver castes in Hubli.** Karnatak. Dr (Mrs) Prabha Mahale, Reader, Department of Anthropology, Karnatak University, Dharwad.

2. Hallikeri, Aruna Shivanagappa. **Hanbars of South India: A study.** Karnatak. Dr K G Gurumurthy, Prof and Chairman, Department of Studies in Anthropology, Karnatak University, Dharwad.

3. Raychaudhuri, Rumjhum. **A demographic study on two culturally diverse communities in Calcutta.** Calcutta.

4. Singh, Vijay Prakash. **Panch Koyala Khan kshetra mein karyarat Gour Janjati shramikon per audyogikaran ka prabhav.** H S Gour. Dr Ramesh Choubay, Department of Anthropology, Dr Hari Singh Gour Vishwavidyalaya, Sagar and Dr Shrinath Sharma, Department of Sociology, Dr Hari Singh Gour Vishwavidyalaya, Sagar.

Social Work

1. Samuel, Susheel. **Social welfare in Madhya Preadesh: A compartive study of approaches by Government and voluntary agencies.** Devi Ahilya. Dr P T Thomas, 500 C M H Road, First Stage, Indira Nagar, Bangalore.

Political Science

1. Bajpai, Anil Kumar. **Judicial response to the problem of reservations.** Osmania.

2. Dixit, Arun Kumar. **Bharatiya Samvidhan ke antragat rajyadheen naukri mein avasar samta.** Ravishankar. Dr (Smt) Nisha Jha, Asstt Prof, Department of Political Science, Govt College, Baloda Bazar.

3. Guha, Sampa. **Women in West Bengal politics, 1947-87.** Calcutta.

4. Gupta, Alkesh. **Sambhrant janon kee rajniti aur prashsan mein bhumika: Raipur Jile ke sandarbh mein.** Ravishankar. Dr D R Deshmukh, Department of Political Science, Durga College, Raipur.

5. Ilaiah, K. **Gautama Buddha as political philosopher.** Osmania.

6. Jain, Mukesh. **Madhya Pradesh mein nagarpalika nigamon per Madhya Pradesh shasan ka niyantran: Jabalpur evam Khandwa Nagarpalika Nigamon ke vishesh sandarbh mein.** H S Gour. Dr J K Nigam, Department of Political Science, S N Government Post Graduate College, Khandwa.

7. Jha, Arun Kumar. **Role of Supreme Court in India's development, 1979-85.** Delhi.

8. Malhotra, Kulbhushan. **Burma under military rule: The role of the Burma Socialist Programme Party, 1962-74.** JNU. Dr B D Arora, Centre for South, Central, Southeast Asian and South West Pacific Studies, Jawaharlal Nehru University, New Delhi.

9. Mishra, Ajoya Kumar. **Political socialization of industrial workers: A case study of Rourkela Steel Plant.** Sambalpur. Dr A P Padhi, Prof, Department of Political Science, Sambalpur University, Jyoti Vihar, Burla.

10. Shahnaz Bano. **Central Asian Republics and the working of Soviet Federalism, 1917-1977.** JNU. Prof R R Sharma, Centre for Soviet and East European Studies, Jawaharlal Nehru University, New Delhi.

11. Suvarchala, G. **Politics and development with reference to rural development programme in Andhra Pradesh.** Bangalore. Dr S N Sangita, Assoc Prof, Development Administration Unit, Institute for Social and Economic Change, Bangalore.

12. Talukdar, Sima. **Personality and politics: A study of political participation in Calcutta.** Calcutta.

13. Thomas, P M. **The Kerala Public Service Commission: Concept and working.** Kerala. Dr V Gangadharan Pillai, T C 29/1820, Post Office Lane, Perunthanni, Thiruvananthapuram.

Economics

1. Afshan, Ismath. **Marketing of fruits and vegetables in Bangalore.** Mysore. Dr A R Rajapurohit, 2050 MIG, III Phase, Yelahanka, New Town, Bangalore.

2. Chakrabarti, Debaprasad. **The Industrial Development Bank of India: Its growth and performance, 1964-79.** Calcutta.

3. Damodaran, A. **Externalities of bore-well irrigation: A case study of Karnataka State.** Kerala. Dr K Ramachandran Nair, Prof and Head, Department of Economics, University of Kerala, Kariavattom.

4. Girija Sastry, J. **Variation in commodity composition of**

Indian exports: An inter-regional analysis. Osmania.

5. Jacob, John. **Economics of public water supply system with special reference to Kerala.** Kerala. Dr Karunakaran Pillai, Reader, Department of Economics, University of Kerala, Kariavattom.

6. Jain, Chakresh Kumar. **Sagar Sambhag ke Damoh Jile mein Bharatiya State Bank, Agrani Bank, dwara krishi ka vitt poshan.** H S Gour. Dr B K Jain, Reader, Department of Commerce, Dr Hari Singh Gour Vishwavidyalaya, Sagar.

7. Krishan Kumar. **Economic analysis of tribal agriculture in Lahaul Valley of Himachal Pradesh.** HP Krishi. Dr T V Moorti, Department of Agricultural Economics, College of Agriculture, Palampur.

8. Sarkar, Malay Ranjan. **Rural banking and economic development with special reference to Uttarbanga Kshetriya Grameen Bank.** NBU.

9. Tiwari, Asmita. **Madhya Pradesh mein nagariya nirdhanta ka arthik vishleshan: Sagar Shahar ke sandarbh mein.** H S Gour. Prof R Mehrotra, Department of Economics, Dr Hari Singh Gour Vishwavidyalaya, Sagar.

Law

1. Madhusudan Rao, C. **Law of Compensation in personal injury cases: An examination of the laws relating to compensation under the Motor Vehicles Act 1939/1988.** Osmania.

Public Administration

1. Chauhan, Sewa Singh. **Administration of labour welfare in India with special reference to H P.** HP.

2. Gangadhara Sastry, Rudrabhatla. **Fedralism in India in the context of administration relations between centre and states.** Osmania.

3. Khandewale, Shreekant Vishnu. **Health administration and the weaker sections: A study of Municipal Corporation of Delhi since 1972.** Nagpur. Dr Sajjan Dave, Department of Political Science and Public Administration, Nagpur University, Nagpur.

4. Ramachandra Reddy, L. **Personnel management in public enterprises: A case study of Andhra Pradesh Dairy Development Cooperative Federation Ltd.** Venkateswara. Dr M V Subba Rao, Prof (Retd), H No. 6-3-649/5-1 Somajiguda, Hyderabad.

5. Sivamohan, M Venkata Krishna. **Management process in development with reference to Nagar Junasagar Right Canal Command Area Development Authority.** Nagpur. Prof V S Murti, Department of Political Science and Public Administration, Nagpur University, Nagpur.

Education

1. Ambli, Shailaja Shivashankar. **A study of the effect of step to para, extrinsic to intrinsic reinforcement and overt to covert response transformations in learner reading material interaction on learner performance.** Karnatak. Dr K Ramachandrachar, Reader, Post Graduate Department of Education, Karnatak University, Dharwad.

2. Mittal, Sadhana. **A comparative study of self-concept and personality factors of scheduled caste and non-scheduled caste students.** Agra.

3. Mukherjee, Shankar. **An experimental study of the comparative effectiveness of traditional and some selected non-traditional strategies of teaching English as a second language.** Jamia. Prof M Abu Baker, Department of Teacher Training and Non-Formal Education, Jamia Millia Islamia, New Delhi and Prof N G Chaturvedi, Director, Central Hindi Institute, New Delhi.

4. Nagamani, P. **Womens education and employment: An investigation into the attitudes, aspirations and achievements of women and their socio-economic correlates.** Osmania.

5. Nema, Ramesh Chandra. **Madhya Pradesh mein prodh shiksha, 1948-82: Vivechnatmak evam tulnatmak adhyayan.** Durgawati. Dr (Kum) S Vaidya, 468, Kamla Nehru Nagar, Jabalpur.

6. Panda, Banchhanidhi. **An evaluation of National Service Scheme in Sambalpur University.** Sambalpur. Dr B Biswal, Reader, Department of Education, P N College, Khurda, Puri.

7. Ralte, Lalliani. **An analytical study of the primary education in Mizoram during the post-independence period.** NEHU. Dr P P Gokulanathan, Department of Education, North Eastern Hill University, Shillong and Dr S Hom Chaudhuri, Department of Education, Pachhunga University College, Aizawl.

8. Saxena, Radha Rani. **A study of the intellectual and non-intellectual characteristics of slow learners.** Banasthali.

9. Shrinivasan, T K. **A study of affective behaviour of Mathematics students in higher secondary schools in Madhya Pradesh.** Durgawati. Dr N N Shrivastava, State Institute of Science Education, Jabalpur.

10. Sneh Prabha. **Hindi bal sahitya mein ras va uski shaikshika mahatta.** Delhi.

11. Sreekumar, S K. **Factors influencing alcoholism and drug addiction among college students in Kerala.** Kerala. Dr (Mrs) Mercy Abraham, Prof, Department of Education, University of Kerala, Thiruvananthapuram.

12. Tawade, Snehala. **An intra cultural study comparing the relative effectiveness of three instructional programmes based on three different modes, as proposed by Bruner on the acquisition of Mathematical concepts by children of age 11 to 13 belonging to different socio-cultural groups in Maharashtra State.** SNDT. Dr B V Soman.

13. Vasantha Kumari, P. **A critical analysis of difficulty levels of writing the Telugu alphabets as perceived by teachers and learners in formal, non-formal and adult education institutions.** Venkateswara. Prof V L N Reddy, Department of Adult Education, Sri Venkateswara University College, Tirupati.

14. Venkata Subha Reddy, Pamuri. **A study of job satisfaction of adult education supervisors in Andhra Pradesh.** Venkateswara. Dr B Niranajan Reddy, Reader, Department of Adult Education, Sri Venkateswara University College, Tirupati.

Commerce

1. Adhikary, Prakash Chandra. **Indo-Bangladesh trade: A study of its problems and prospects.** NBU.

2. Chakraborty, Partha Chandra. **Performance and appraisal of North Bengal State Transport Corporation from 1967-68 to 1987-88.** NBU.

3. Gouda, K Nanja. **Investment, pricing and financial performance in Karnataka Electricity Board.** Gulbarga. Dr K V Prabhakar, Chairman, Department of Commerce, Gulbarga University, Gulbarga.

4. Mukim, Poonam. **Development finance and regional industrial development in India.** Delhi.

5. Raghurama, A. **The role of commercial banks in financing small-scale industries: A case study of Dakshina Kannada District.** Mysore. Dr B R Ananthan, Reader, Post Graduate Department of Commerce, University of Mysore, Manasagangotri, Mysore.

6. Varinder Kumar. **Marketing practices in small scale industries: A study of engineering industry of Panjab.** Nanak.

Home Science

1. Anjali Devi, C. **Nutritional status of malas and madigas of Telangana Region: An ecological perspective.** Venkateswara. Dr (Miss) P R Reddy, Vice Chancellor, S P M Vishwavidyalayam, Tirupati.

2. Dhingra, Sukhsatej. **Trace element status of pregnant women and its effect on neonates.** PAU.

3. Krishnammal, P. **Psycho-socio cultural variables in relation to child care and nutrition practices of women.** Mother Teresa. Dr S Lakshmi.

Management

1. Balgir, Amarjit Singh. **A study of socio-cultural correlates influencing different patterns of management.** Delhi.

2. Chauhan, Rajinder. **Project appraisal techniques for agro based industries in Himachal Pradesh, India.** HP.

3. Dhir, Meenakshi. **Dimension of regional disparties in commercial banking in India.** HP.

4. Kulkarni, Maheshkumar Atmaram. **A study of the organisation and functioning of selected urban cooperative banks in Nashik Region with special reference to priority sector lending.** Nagpur. Dr Prabhakar Deshmukh, G S College of Commerce, Wardha.

international institute for population sciences
(DEEMED UNIVERSITY)

जनसंख्या विज्ञान
का
अन्तर्राष्ट्रीय संस्था
(विश्वविद्यालय समतुल्य)

DR. K. SRINIVASAN
DIRECTOR

GOVANDI STATION ROAD,
DEONAR, BOMBAY-400 088
INDIA

Telegrams : DEMOGRAPHY, CHEMBUR, BOM
Telephones : DIRECTOR : 55620
OFFICE : 55113
55113
55115

ADMISSION NOTICE

Applications are invited for admission to the following teaching programmes of the Institute for the academic session 1992-93 to commence from 6th July 1992.

1. MPS (MASTER OF POPULATION STUDIES)
   (one year full time course)
2. MPS (BRIDGE COURSE)
   (one or two semester full time course)
3. M.Phil. (MASTER OF PHILOSOPHY IN POPULATION STUDIES)
   (one year full time course)

Selection will be made through interview or other methods as decided by admission committee.

Eligibility

1. **For MPS** : Master's degree of a recognised University in any of the following subjects : Statistics, Mathematics, Sociology, Anthropology, Psychology, Geography.

OR

Master's degree in subjects other than mentioned above with some experience in population or allied field.

2. **For MPS (Bridge Course)** : Candidates holding Bachelor's degree and Certificate in Population Studies (CPS) of IIPS. The course is of one or two-semester duration, depending on the academic background and the performance of the candidate in the CPS.

3. **For M.Phil** : i) Master's degree in Population Studies from IIPS or an equivalent degree from any other university with at least 55 percent marks in the aggregate.

OR

ii) Certificate/Diploma in Population Studies/Demography from IIPS with at least 55 percent marks in the aggregate and a Master's degree in the relevant subject.

Those who have been offered M.Phil/Ph.D fellowship by UGC/ICSSR etc., for a period of at least 2 years, may be admitted directly. They will, however, be required to obtain the MPS degree of the Institute within one year with a minimum of 55 percent marks in the aggregate.

Those appearing at the qualifying examinations may also apply. However, the selected candidates have to produce the results of the qualifying examination at the time of interview.

Fellowships: Twenty fellowships are offered for M.P.S at Rs.700 p.m. and 10 fellowships at Rs.800 p.m. for M.Phil.

Three seats are reserved for Scheduled Caste and one for Scheduled Tribe candidates.

Application forms can be obtained from the office of the Assistant Registrar (Academic), International Institute for Population Sciences, Deonar, Bombay-400 088 free of cost. The request for application form should accompany a self-addressed envelope of size 25 x 12 cms. affixed with postage stamps worth Rs.4.00.

The envelope should be superscribed "APPLICATION FOR ADMISSION".

The last date for receipt of completed application form is **20th April, 1992.**

K. Srinivasan
DIRECTOR

MINISTRY OF HUMAN RESOURCE DEVELOPMENT

(DEPARTMENT OF EDUCATION)

PORTUGUESE GOVERNMENT SCHOLARSHIPS, 1992-93

Applications are invited from Indian nationals residing in India for Portuguese Government Scholarships, 1992-93, on the application format given below. Details of Scholarships are as under:-

ANNUAL COURSE: Six scholarships for pursuing Annual course in Portuguese Language and Culture. Scholarships are meant for students who are enrolled for the courses of Portuguese Language and Culture in the Indian Universities.

RESEARCH SCHOLARSHIPS: Four research scholarships in the fields of Portuguese Language and Culture. Scholarships are meant for candidates who have done M.A., M.Phil or Ph.D. The forms must be accompanied by the documents giving proof of the candidate's academic qualifications and the research project approved by a Portuguese University.

DURATION: Annual Course is of ten months duration and the Research Scholarships are of duration not exceeding 12 months. Both the scholarships will commence from 1st November, 1992.

ALLOWANCES: The monthly grant for annual course shall be 66,100$00 Escudos (Rs. 13,220 approx.) to Postgraduates and 56,300$00 Escudos (Rs. 11,260 approx.) to other students.

The monthly grant for Research scholarships shall be 97,300$00 Escudos (Rs. 19,460 approx.) and 84,900$00 Escudos (Rs. 16,980 approx.) in accordance with the University grade and/or professional experience of the scholars.

PASSAGE COST : Travel expenses from India to Portugal and back will be borne by the candidates themselves or his/her sponsors/employers. Subject to availability of funds, the Government of India will consider the grant of passage cost on the candidates request if the candidate. or his/her parents/guardians income is less than Rs. 1000 per month as old basic pay in the pre-revised scales.

LAST DATE : Last date of receipt of applications alongwith the following documents is **06th April, 1992.**

(i) Attested/Attested Photostat Copies showing educational Qualifications. (ii) Plan of work duly structured which defines clearly the theme of research and objectives of the same. (iii) Document indicating the link of the candidate with his institution in India (iv) Certificate from the Institution to which the candidate is linked and letters of recommendations from two/three persons of recognised identity (Heads of the departments/University Professors/Guides) attesting the importance of the research work and competence of the candidate to carry our the same.

NOTES : 1. Applications of candidates who reside abroad will not be considered. 2. Candidates who have already been abroad for studies/training either on scholarship or on their own for a period exceeding six months are eligible to apply if they have been in India for atleast three consecutive years after returning from abroad. 3. Candidates should have adequate knowledge of the cultural heritage of India and Portugal. 4. Employed persons must send their applications through proper channel alongwith their employer's/departments "No Objection Certificate". 5. Candidates who do not possess the requisite qualifications need not apply. 6. Incomplete applications will not be entertained. 7. Applications received after the last date will not be entertained. 8. Canvassing in any form will be a disqualification.

APPLICATION FORM

A Recent passport size photograph

1. Name of the Candidate (in Block letters)
2. A) Subject
   B) Sub-Subject
3. A) Present Address
   B) Permanent Address
   C) Father's Name & Occupation
4. A) Date of Birth
   B) Age as on 1.10.1992
5. State to which the candidate belongs.
6. Whether a member of SC/ST Community (If so, attach the relevant Certificate from competent authority).
7. Qualifications :
   (Starting from High School or Hr. Secondary)

Examination Passed	Name of Board/ University	Year of passing	Division or class	Percentage of marks	Subjects taken

(In case no Division or class is awarded and only grading is done, the Conversion Formula adopted may be mentioned with exact percentage of marks obtained).

8. Experience :
9. List of papers published, if any.
10. Detail of employment.

Sl. No.	Name/ Designation of post held	Date		Name and address of employer	Nature of work	Remarks (Reasons for leaving employment)
		From	To			

11. Have you been abroad. If yes, state
    A) Date of leaving India
    B) Date of Return to India
    C) Country visited
    D) Purpose of visit
12. Proposed programme of Study/Research specifying.
    i) the future plans and prospects of the proposed studies/ research in at least 300 words, and
    ii) work at present engaged in.

Date : (Full Signature of Candidate)
Place :

Full signature of the employer sponsoring authorities (in case of employed candidates) with seal of the office.

davp 91/755

G.B. PANT UNIVERSITY OF AGRICULTURE & TECHNOLOGY
Pantnagar-263145 (Nainital)

CORRIGENDUM

It is for information of all girl candidates of rural areas seeking admission to B.Sc. Ag. & A.H./B.V.Sc. & A.H./B.F.Sc./B.Sc. Forestry/B.Sc.(Home Science) programmes of the University under category "Girls of rural area of U.P.– Category Code R.G." through entrance examination on 24.5.1992 that they are required **to submit only certificate No. VI and not certificate No. VIII** as given in Appendix III of the U.G. Information Brochure.

REGISTRAR (Coordinator (Admissions))

COMBINED ENTRANCE EXAMINATION 1992-93

FOR ADMISSION TO M.SC./M.TECH. BIOTECHNOLOGY

M.Sc. Biotechnology at Banaras Hindu University, Devi Ahilya Vishwavidyalaya, Guru Nanak Dev University, Jawaharlal Nehru University, M.S. University of Baroda, Madurai Kamaraj University, Poona University, Goa University, G.B. Pant University of Agriculture and Technology, Central University (Hyderabad),Tamil Nadu Agricultural University(M.Sc. Agricultural Biotechnology)and M.Tech. Biotechnology at Anna University(Madras) and Jadavpur University(Calcutta).

Jawaharlal Nehru University will hold on (Sunday)May 31,1992 a Combined Entrance Examination for admission to M.Sc./M.Tech. programmes for the abovenamed partipating universities at Ahmedabad, Bangalore, Baroda, Bhubaneshwar, Bombay, Calcutta, Chandigarh, Cochin, Coimbatore, Dehradun, Delhi, Gauhati, Goa, Hyderabad, Indore, Jaipur, Jammu, Lucknow, Madras, Madurai, Pant Nagar, Patna, Pune, Ranchi, Shillong, Varanasi, Vijayawada. The University reserves the right to change the Centres of Examination without assigning any reason.

ELIGIBILITY FOR ADMISSION

1.M.Sc. Biotechnology: Bachelor's degree under the 10+2+3 pattern of education in Physical, Biological, Agricultural, Veterinary and Fishery Sciences, Pharmacy, Engineering/Technology or medicine (MBBS) with 55% marks.

2.M.Sc.Agri. Biotechnology: (Tamil Nadu Agricultural University and G.B.Pant University of Agriculture and Technology): Bachelor's degree in Agriculture, Horticulture, Forestry, Fisheries, Veterinary Sciences or Agri. Engineering with 70% marks for TNU and 55% marks for G.B.Pant University.

3. M.Tech. Biotechnology: Anna University and Jadavpur University: B.Tech degree with minimum 60% marks or equivalent in Chemical Engineering, Biochemical Engineering, Chemical Technology, Pharmaceutical Technology, Food Technology and Dairy Technology or Master's degree with minimum 60% marks or equivalent in Life Sciences, Botany, Zoology, Biochemistry, Microbiology, Genetics, Physiology, Pharmacology and Biophysics.

SCHOLARSHIP/FELLOWSHIP: Candidates selected for admission to M.Sc./M.Tech. programmes in Biotechnology will be eligible to receive scholarships/fellowship. (For details please refer to the "Instructions for Guidance of Candidates")

Biotechnology is a newly emerging multidisciplinary area on the educational scene and programmes have been developed to meet the growing demand of trained manpower for any meaningful biotechnology activity in the country exposing the students to exciting developments in the area of genetic engineering and biotechnology and their exploitation in industry, agriculture and medicine etc.

RESERVATION OF SEATS :15% for SC and $7\frac{1}{2}\%$ for ST and 3% for physically handicapped. Such candidates are eligible to apply irrespective of percentage of marks in the qualifying examination.

HOW TO APPLY : Application form along with the brochure can be had on cash payment of Rs.20 per set by calling personally on any of the following addresses.

1. Assistant Registrar (Combined Entrance Examination Biotechnology) Jawaharlal Nehru University, New Delhi or any of the Co-ordinators of the Biotechnology Programme i.e. 2. School of Biological Sciences, Madurai Kamaraj University, Madurai; 3. Botany Department,School of Biotechnology, Banaras Hindu University, Varanasi: 4.Faculty of Science, Department of microbiology, M.S. University of Baroda , Baroda; 5. Department of Zoology,Poona University, Pune; 6. Department of Marine Science; Goa University, Goa; 7. Faculty of Science, G.B.Pant University of Agriculture and Technology; 8. School of Genetics, Tamil Nadu Agricultural University, Coimbatore; 9. Department of Biotechnology, Guru Nanak Dev University, Amritsar; 10. Coordinator Biotechnology Programme, School of Life Science, Central University, Hyderabad; 11. Department of Biotechnology Programme, Devi Ahilya Vishwavidyalaya, Indore; 12. Centre for Biotechnology, Anna University, Madras; 13. Department of Food and Technology & Biochemical Engineering, Jadavpur University, Calcutta.

Those desirous of obtaining application form by post should address their request only to Assistant Registrar (Combined Entrance Examination Biotechnology), Jawaharlal Nehru University, New Delhi-110067 along with a crossed Indian Postal Order for Rs. 35 payable to Jawaharlal Nehru University, New Delhi, to cover the cost of one set of application form and postage together with a self-addressed envelope of the size 28 cm x 20 cm inscribing clearly indicating "Application form for M.Sc. Biotechnology (or) M.Sc. Agri. Biotechnology (or) M.Tech. Biotechnology. PLEASE NOTE THERE ARE SEPARATE APPLICATION FORMS FOR EACH PROGRAMME. Completed application forms are required to be mailed only to the Assistant Registrar (Combined Entrance Examination Biotechnology), Jawaharlal Nehru University, New Delhi-110067 and not to other participating Universities.

ISSUE OF FORMS: From February 24, 1992 to April 10, 1992.

LAST DATE OF RECEIVING COMPLETED APPLICATION FORMS: April 16, 1992.

IMPORTANT NOTE: Candidates are advised to apply separately in case they are desirous of appearing for more than one programme i.e. M.Sc. Biotechnology or M.Sc. Agricultural Biotechnology or M.Tech. Biotechnology. Candidates who are due to appear this year in the respective qualifying examination prescribed for eligibility for admission to a particular programme are also eligible to sit in the entrance examination as per conditions laid down in this regard.

However, in the event of selection, their admission shall be subject to their securing the prescribed percentage of marks in the qualifying examinations and submission of all documents including final mark sheet of the qualifying examination as per deadline prescribed by each university.

CLASSIFIED ADVERTISEMENTS

UNIVERSITY OF MANIPUR

Advertisement No.5/92

Applications are invited for a temporary vacancy of the post of **Registrar** in the scale of pay of Rs.4500-150-5700-200-7300 plus usual allowances admissible under the University rules.

Qualifications:

(a) A Postgraduate degree with at least 55 percent marks or its equivalent grade.

(b) At least Fifteen (15) years of experience as Lecturer/Reader of which Eight (8) years should be in Reader's Grade with experience in educational administration

OR

Comparable experience in research establishments and other institutions of higher education

OR

15 years of administrative experience of which eight years as Deputy Registrar or an equivalent post.

(c) Preferably below 55 years of age.

The vacancy is a purely temporary leave vacancy up to February 16, 1993. The appointment will be made only for the duration of the leave of absence of the present incumbent.

Retired persons who have not attained the age of 62 years may also apply for consideration of appointment on contract basis.

The persons in service must apply through their employers.

Applications, on plain paper (in duplicate), with attested copies of certificates in support of qualifications, experience, showing candidate's name, father's name, date of birth, address for correspondence, academic and professional attainment,experience, publications, etc, along with Assessment Report from at least two well acquainted with the candidate's professional work should reach the Officiating Registrar, Manipur University, Canchipur, Imphal-795003, on or before **15 April 1992** along with a bank draft of Rs.30 payable to the Registrar, Manipur University, Imphal.

Incomplete applications and applications received late may not be entertained. No candidate will be considered for appointment unless he/she produces No Objection Certificate from his/her employer at the time of interview.

Dr. T. Gokulchandra Singh
REGISTRAR

NATIONAL INSTITUTE OF IMMUNOLOGY

SHAHID JEET SINGH MARG
NEW DELHI-67
(AN AUTONOMOUS RESEARCH ORGANIZATION FUNDED BY DEPARTMENT OF BIOTECHNOLOGY, GOVT. OF INDIA)
SPECIAL DRIVE FOR RECRUITMENT OF SC/ST CANDIDATES (No. 1/92)

The Institute invites applications from highly motivated, creative and productive scientists for the following posts in the pay scales mentioned against each :-

I. Name of the Post : **STAFF SCIENTIST II - 3 POSTS** (2 Posts for SC and 1 post for ST) in the pay scale of Rs. 2200-75-2800-EB- 100-4000.

(1) **Job Requirements** : Electron microscopic studies in addition to managing electron microscopic facilities.

Qualifications & Experience : Ph.D. or Master's degree in Biological Sciences with relevant experience in microscopy especially immuno electron microscopy and cell culture techniques.

(2) **Job Requirements** : Analysis of Protein Crystal structures by X-diffraction technique; Development of computer software for applications in Protein Crystallography.

Qualifications & Experience : Ph.D. in Protein Crystallography with relevant experience in computational aspects of protein structure determination.

(3) **Job Requirements** : To develop biosensor based devices for antigen antibodies reaction for next generation of immunodiagnostic kits.

Qualifications & Experience : M.Sc or Ph.D in Chemistry or Electrochemistry with relevant research or technical experience in development of biosensor for diagnostic applications. Specialisation in development and acquisition of biosensors for diagnostic purposes will be preferred.

II. Name of the Post : **STAFF SCIENTIST - 1 POST—1** for SC in the pay scale of Rs.2000-60-2300-75-EB-3200.

(I) **Job Requirement** : Protein Conjugation, preparations of vaccines as per GMP/GLP norms.

Qualifications & Experience : Ph.D/M.Sc in Life Sciences with relevant experience in Protein Chemistry preferably experience in quality control of vaccines or pharmaceuticals.

III. Name of the Post : **Lab Assistant - 1 post** Reserved for ST in the pay scale of Rs. 975-25-1150-EB-30-1540.

(1) **Job Requirements** : To assist in tissue culture, handling of lab animals, maintenance of cell lines.

Qualifications & Experience : Matric with Science with 4-5 years' experience or MLT with 3 years' experience in research/medical institution.

IV Name of the Post : **JUNIOR ASSISTANT - 2 POSTS**

(1 for SC & 1 for ST)

Scale of pay : Rs. 1200-30-1560-EB-40-2040.

Qualifications & Experience : Graduate in any discipline from a recognised university with experience in the relevant field in Govt./Semi-Govt/Public Sector Undertaking.

Candidates possessing knowledge of Typing @ 40 w.p.m. and Word Processing will be preferred.

(1) **Job Requirement** : Import of stores like Chemicals, etc. Lincensing, custom clearance, custom exemption, DGTD clearance and other related works. Maintenance of inventory, records, receipt and issue and local purchase of stores.

(2) **Job Requirement** : To assist in matters of routine nature in administration/accounts like leave, preparing of muster roll, making of receipts, pay accounts etc.

Note:

1. Appointment will be made initially on contract for five years with trial period of one year. Further continuation of appointment will depend on performance during this period of 5 years.
2. The pay, allowances, etc. are admissible as per Central Government norms. Other benefits include CPF, Medical Reimbursement, leave, LTC, Bonus etc., as per rules of the Institute.
3. Higher start in the given scale may be given to deserving candidates.
4. Person working in Govt./Public Sector/Autonomous Bodies should apply through proper channel or produce "No Objection Certificate" at the time of interview.
5. Candidates should indicate names and addresses of three referees responsible position who can comment on their suitability for the post failing which their application will be considered incomplete.
6. Application on a plain paper, with complete details of qualification, experience indicating names of Organizations served, with period, salary drawn, copies of testimonials and names of three referees should be sent to the **Administrative Officer within a week** from the publication of this advertisement.
7. Candidates are required to apply separately for each post.
8. Qualification and experience relaxable at the discretion of the Institute. Candidates who may feel that they do not qualify strictly as per the requirements indicated above but may qualify with relaxation may also apply.
9. These posts can also be filled in the lower grade at the discretion of the Institute.
10. Outstation candidates called for interview may be paid single second class railway fare to and fro by the shortest route on production of proof of the same in respect of posts at S.No. I and II.

Applicants should clearly mention the Sl.No. and name of the post applied for on the top of the Envelope. Late and incomplete applications will not be considered.

JAWAHARLAL NEHRU UNIVERSITY

NEW DELHI
ADVT. NO. A&E-II/2/92

Applications are invited for the following posts:

1. Research Associate in Southeast Asian & Southwest Pacific Studies Division - One. EQ : (a) Consistently good academic record;

(b) First or high second class M.A. Degree in Political Science/History/International Relations/Economics; (c) Ph.D. in Southeast Asian or Southwest Pacific Studies. **Note:** Preference would be given to candidates who have got the experience in teaching and research guidance.

2. Research Associates in Soviet Studies - Two. **EQ:** (a) Doctoral Degree or research work of equally high standard in Soviet Studies; (b) Good academic record with high second class Master's degree in any subject of Social Science. **DQ:** Relevant published work of academic interest and working knowledge of Russian language.

3. Research Associate in Legal Studies—Division - One. **EQ:** At least high second class Master's degree in Political Science, LL.B. or LL.M. (b) A Doctorate degree and research experience in the field of International Law.

4. Research Associate in Educational Studies One. **EQ** : Atleast high second class M.A. in a Social Science discipline preferably in Sociology/Economics/Psychology. Doctoral degree or equivalent published wok in one of the above disciplines. **DQ:** (a) 4-5 years' teaching and research experience in planning and management of higher education; (b) high aptitude and ability to conduct and guide research. **Specialisation:** Educational Studies.

5. Research Associate in Gulf Studies - One. **EQ:** (a) First or high second class Master's degree in the field of Social Sciences or West Asian Studies or Islamic Studies; (b) Ph.D. degree in the field of West Asian Studies or Social Sciences or Islamic Studies; (c) Knowledge of Arabic/Persian. **Note:** Candidates would submit a synopsis of the Research Project they would like to undertake related to the Gulf region.

6. Research Associate in Biotechnology - One. **EQ:** Ph.D. in Biochemistry, Life Sciences or any Branch of modern biology.

7. Research Associate in Geography - One. (under DSA Programme). **EQ:** (a) Good academic record with at least a high second class M.A./M.Sc. in Geography; (b) A doctoral degree or published work of an equally high standard in the area of specialisation; (c) Evidence of being actively engaged in research. **DQ:** (a) Specializtion in the interface of agricultural geography with rural infrastructural development in India; or Social Geography with special reference to social change/transformation in villages around metropolitan areas; (b) Proven evidence of published work in the area of specialization.

Emoluments:

Research Associate can be considered for categories A,B,C or D i.e. Rs. 2200-100-2700, Rs. 2700-100-3200, Rs. 3200-100-3700, Rs. 3700-125-4325 respectively. Age limit : 45 years for men and 55 years for women candidates. 10% of the posts of Research Associates are reserved for SC/ST candidates. All the posts of Research Associates are initially for 3 years and extendable for 2 years.

Any of the qualifications/experience may be relaxed at the discretion of the University. It will also the open to the University to consider the names of suitable candidates who may not have applied.

Application forms may be obtained free of cost in person or by sending a self-addressed envelope (23 cm x 10 cm) duly stamped of the value of Re. 1/-to the Deputy Registrar (Acad. & Estt.II), Room No. 131, Administrative Block (New Campus), Jawaharlal Nehru University, New Delhi-110067. The applications in the prescribed form complete in all respect duly forwarded by the competent authority (for those in service) should reach this University latest by **20.4.1992.**

Note: EQ : Essential Qualifications.
DQ : Desirable Qualifications.

ASSAM AGRICULTURAL UNIVERSITY

JORHAT-13

Advertisement No.2/92

Applications are invited in prescribed application form for the following posts in disciplines as mentioned below :-

1. Post in the rank of Professor (Pay scale Rs.4500-7300)

Discipline : Animal Production and Management.

2. Post in the rank of Associate Professor (Pay Scale Rs.3700- 5700)

Discipline: (i) Fisheries (Specialisation: Aquaculture/Fishery Biology/ Hydrobiology); (ii) Horticulture; (iii) Agril. meteorology; (iv) Vety. Microbiology.

3. Post in the rank of Assistant Professor (Pay Scale Rs.2200- 4000)

Discipline: (i) Nematology; (ii) English; (iii) Tea Husbandry & Technology.

All posts carry allowances as admissible under the University rules. Prescribed application forms with details of qualifications, experience etc. required for the posts and other details may be had by sending self-addressed Rs.3 stamped envelope of the size of 23x10 cm from the undersigned. The last date of receiving applications complete in all respects is **8th April, 1992**. The applications of employed candidates must come through proper channel and within the last date. Applications which are incomplete, not in prescribed form and received after expiry of the last date shall not be entertained.

L. Dutta
REGISTRAR

ST. BERCHMANS' COLLEGE

CHANGANACHERRY
KERALA STATE
PIN 686 101, SOUTH INDIA

WANTED

LECTURERS in Chemistry, Zoology, Economics, History and Physical Education (Open and Community quota). The Posts are subject to sanction by the Mahatma Gandhi University, Kottayam and review under the U.G.C. Scheme.

Qualification: Ist or 2nd class Master's degree in the concerned subject with not less than 55% marks and a pass in the U.G.C. eligibility test.

Age: According to Government service and University regulations.

Apply to the Principal within one month from the date of publication of this notification. Application Form and other details can be had from the college office on payment of Rs. 50 in person or Rs. 60 by post.

PRINCIPAL

INDIAN COUNCIL OF MEDICAL RESEARCH

Applications are invited up to **30th April, 1992** for one post of **Deputy Director**(Tissue Culture & Cell Biology) in the scale of pay of Rs.4500-150-5700 at the Council's National Institute of Virology, Pune.

Qualification & Experience:Essential:MBBS or M.Sc. (1st class)in Microbiology/Life Sciences/Biochemistry with 12 years' research/teaching experience in Tissue Culture/Cell Biology OR M.D. or Ph.D. in the above fields with 10 years' research/teaching experience as evidenced by publications of good quality. **Job Requirements:**The incumbent will be required to undertake research in Cell Biology and Tissue Culture including Mass cultivation of cells, pilot plant production of vaccine, quality control etc. He should be able to guide and formulate research programmes in the above fields. He should also be prepared to carry out field investigations on diseases anywhere in India for any period of time.

Age: Below 50 years. SC/ST candidates allowed relaxation in accordance with Govt. of India Rules.

Allowances as per Central Government rules are admissible on the above pay scale. Benefits of pension admissible. Private practice is not allowed. However, NPA as per rules of the Council is admissible to medical graduates only.

Candidates called for interview will be paid 1st class rail fare by shortest route, on production of documents.

Applications from employees working in Central/State Govt. Deptt./Public Sector undertaking and Govt. funded research agencies must be forwarded through proper channel.

Application forms can be obtained from the office of the **Director General, Indian Council of Medical Research, Ansari Nagar, Post Box No. 4508, New Delhi-110029**. Forms duly completed should be sent to the Director General, Indian Council of Medical Research, Ansari Nagar, Post Box No.4508, New Delhi-110029 with a crossed IPO for Rs.8 payable to the Director General, ICMR, New Delhi. SC/ST candidates are exempted from this payment.

Incomplete and late application or without postal orders will not be entertained. The name of the post and of the Institute must be indicated in the Application Form.

BIRLA INSTITUTE OF TECHNOLOGY
MESRA ,RANCHI.
(Deemed University)

ADMISSIONS NOTIFICATION-1992

The Entrance Examination for admission to

(A) UNDER GRADUATE COURSES

(1) **Bachelor of Engineering (4 Years) Degree course in Civil, Computer Science, Electrical and Electronics, Electronics and Communication, Mechanical and Production Engineering** and

(2) B. Pharm (4 Years) Degree Course in Pharmaceutical Sciences.

(B) POST GRADUATE COURSES

(i) **M.B.A (Master of Business Administration)** 2-yr. full time course and 3 yr. part time course.

(ii) **M.C. A. (Master of Computer Applications)** 3-yr.full time course and 4,1/2 yr. part time course.

(iii) **D.C.A. (Diploma in Computer Applications)** 1 yr. full-time course and 1,1/2 yr. part time course.

will be held on May 30th and 31st 1992 at the following Centres : **Agra, Ahmedabad, Allahabad, Banglore, Bareilly, Bhagalpur, Bhopal, Bhubaneshwar, Bombay, Calcutta, Chandigarh, Dehradun, Delhi, Gauhati, Ghaziabad, Gorakhpur, Hyderabad, Jaipur, Jamshedpur, Lucknow, Madras, Muzaffarpur, Nagpur, Patna, Ranchi, Siliguri, Nainital, Sindri, Trivendrum, Varanasi and Vijayawada.**

Provided sufficient number of candidates opt for the proposed centre

ELEGIBILITY

FOR UNDERGRADUATE COURSES -

1. Bachelor of Engg. (B.E.) I.Sc. or 10+2 or equivalent examination with Physics, Chemistry and Mathematics.
2. B. Pharma. - with Physics, Chemistry and Biology, Maximum age limit 21 years on 1st October 1992.

Eligibile candidates who wish to appear for both the courses i.e. B.E. as well as B. Pharmacy may submit only one application form of either B. E. or B. Pharmacy indicating clearly on the top of the application form that they wish to be considered for both the courses.

FOR POST GRADUATE COURSES -

(i) **M.B.A. (2-yr. full-time) course:** University Degree (3 yr. course in 10+2+3 system) with atleast 50% aggregate marks in Arts/Science/Commerce and 60% marks for Graduate in Engineering Technology/Agriculture.

(ii) **M.B.A. (3-yrs. part time) course :** Same as of (i) above and further the candidate must have three years experience in supervisory capacity in any firm of organisation of repute.

(iii) **M.C.A. (3-yrs. full time) course :** University degree (3 yr. Courses in 10+2+3 System) with atleast 50% aggregate marks, with Maths/Statistics as one of the subjects at Degree level.

(iv) **M.C.A. (4, 1/2-yr. part time) course:** Same as of (iii) above, and further the candidate must have three years experience as executive in any firm of organisation of repute.

(v) **D.C.A. (1-yr. full time) course :** University Degree with atleast 50% aggregate marks with mathematics/Statistics as one of the subject at intermediate level.

(vi) **D.C.A. (1,1/2-yr. part time) course :** Same as of (v) and further the candidate must have one year experience in any firm or organization of repute.

Those appearing at the various qualifying examinations are also eligible. The selected candidates will, however, be required to produce the qualifying examination result by the end of September, 1992. 22.1/2% seats are reserved for SC/ST candidates as per rules applicable to such categories of students.

ENTRANCE EXAMINATION SCHEDULE:

Day	Date	Time		SUBJECT		
			B.E.	B.Pharm	B.E. B.Pharm	M.B.A./ MCA/DCA
Saturday	30.5.92	9 A.M. to 11 A.M.	Mathematics	X	Mathematics	X
		1 P.M. to 3 P.M.	Physics	Physics	Physics	DCA (1 pm to 2 pm)
Sunday	31.5.92	9 A.M. to 11 A.M.	Chemistry	Chemi.	Chemistry	MBA
		1 P.M to 3 P.M	X	Biology	Biology	MCA

Application forms for the above programme can be obtained by post on non-refundable pre-payment of Rs. 50/- (Rupees Fifty Only) by crossed postal order, payable to **Birla Institute of Technology, Mesra, Ranchi.** The request should accompany a self-addressed envelope of size 26x12 c.m. affixed with postage stamps of Rs. 2/-(Rupees Two Only) clearly mentioning on the top of the envelope the form required i.e. B.E./B. Pharma./ MBA/ MCA/ DCA as the case may be.

The last date for reciept of completed application form is April 10,1992.

B.I.T. Mesra, Ranchi.
Date : 18 February 1992.

(G.C. Singh)
Co-ordinator Entrance Examination and OSD.

Gandhara : RN : 257 : 92

UNIVERSITY OF DELHI

DELHI-110 007

Ref: Estab. IV/Advt.-131/ **dated; March 11, 1992**

Applications, on the prescribed form, are invited for the following posts in the University so as to reach the REGISTRAR, UNIVERSITY OF DELHI, DELHI-110 007, latest by FRIDAY, APRIL 10, 1992:

FACULTY OF ARTS:

1. ENGLISH *Readers (2)*

2. MODERN INDIAN LANGUAGES
Reader (1) (Bengali)
Special/desirable qualifications :
Comparative Literature **or** Comparative Indian Literature.

3. URDU *Lecturer (1), Research Associate (1)*
Special/desirable qualifications :
Lecturer: Knowledge of classical Literature.
Research Associate: Background of classical Persian language & Literature.

4. HINDI *Reader (1)*
Special/desirable qualifications :
Specialisation in Medieval Brijbhasha Literature.

FACULTY OF SOCIAL SCIENCES:

5. AFRICAN STUDIES *Lecturer (1)*
Special/desirable qualifications :
i) Specialisation in African Politics;
ii) field work in Africa or visiting assignment at an African University;
iii) knowledge of an African language.

6. CHINESE & JAPANESE STUDIES
Research Associates (2)
Special/desirable qualifications :
i) M. Phil in Chinese Studies;
ii) knowledge of Chinese Language.

7. HISTORY *Reader (1), Research Associates (2)*
Special/desirable qualifications :
Reader: Medieval Indian History.
Research Associate 1: Modern Indian History/European History;
Research Associate 2: Ancient Indian History

8. POLITICAL SCIENCE *Lecturer (1)*
Special/desirable qualifications
Political Theory

9. SOCIOLOGY *Reader (1), Research Associate (1)*

10. ECONOMICS *Professors (2), Readers (4), Research Associates (5)*

FACULTY OF SCIENCE:

11. ANTHROPOLOGY *Reader (1), Lecturers (2)*
Special/desirable qualifications :
Reader: Evidence of fieldwork in tribal societies with specialisation in kinship studies/economic studies, cultural change studies.
Lecturer 1: Teaching and/or knowledge of prehistoric archaeology.
Lecturer 2: Training and/or knowledge of forensic science.

12. GEOLOGY *Research Associate (1)*
Special/desirable qualifications :
Aptitude in Geological Instrumentation and Advance Microscopy.

13. PHYSICS & ASTRO PHYSICS
Professors (4), Reader (1), Lecturers (9), Research Associate (1).
Special/desirable qualifications :
Lecturers: Six posts are earmarked for Experimental Physics & three posts for Theoretical Physics.

FACULTY OF LAW:

14. CAMPUS LAW CENTRE *Readers (2), Lecturers (6)•*

15. LAW CENTRE-I *Lecturers (2)*

FACULTY OF MANAGEMENT STUDIES:

16. MANAGEMENT STUDIES *Reader (1), Lecturers (4).*
Special/desirable qualifications :
Reader: Organisational Behaviour & Human Resource Management; Computers & Management Information Systems and Production & Materials Management.
Lecturers: Organisational Behaviour; General Management; Marketing Management; Accounting; Financial Management; Operations Management; Human Resource Management; Management Science; Computers & Management Information Systems; Business Policy & Strategic Management; Health Care Administration.

OTHERS:

17. DELHI UNIVERSITY COMPUTER CENTRE *Senior Programmers (3), Junior Programmer (1)*
Special/desirable qualifications :
Senior Programmers: i) Experience of participation in training programme in Computer related discipline; ii) intensive experience of System Programming on a third generation Computer System.
Junior Programmer: i) Experience of participation in training programme in Computer related discipline;
ii) knowledge of an assembly language.

18. DELHI UNIVERSITY LIBRARY SYSTEM *Professional Juniors (6)+*
Special/desirable qualifications :
Knowledge of computerisation.

19. W.U.S. HEALTH CENTRE

CHIEF MEDICAL OFFICER (1)

Number of posts is given within parenthesis against each post.
• Five out of six posts are temporary.
+ Two out of six posts are temporary.

SCALES OF PAY

Professor/Chief Medical Officer:
Rs. 4500-150-5700-200-7300

Reader/Senior Programmer:
Rs. 3700-125-4950-150-5700

Lecturer/Junior Programmer/ Professional Junior:
Rs. 2200-75-2800-100-4000

Research Associate: Rs. 2200-100-2700 or 2700-100-3200 or 3200-100-3700 or 3700-125-4325 (Depending upon the recommendations of the Selection Committee).

All above posts, other than those of the Research Associate, carry, DA, CCA, HRA, etc. as are admissible under the rules inforce in the University, from time to time.

The details regarding prescribed essential qualifications and application forms, for above posts, can be had from **the Establishment Section-IV (Room No. 205), New Administrative Block, University of Delhi, Delhi-110 007 on all working days, either personally or by sending a self-addressed and postage stamped (worth Rs. 8/-) envelope (size 13 cm x 28 cm).**

PROF. S. K. WASAN
REGISTRAR

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University News

MONDAY, MARCH 30, 1992

Rs. 5.00

Bangalore Varsity Convocation

Hon'ble Shri Khurshed Alam Khan, Governor of Karnataka and Chancellor of Bangalore University, felicitating Mr. Sandeep Nayak, a B.Com. student who was awarded six Gold Medals and six other Prizes at the convocation of the university.

COLLEGE OF BUSINESS STUDIES

(University of Delhi)

Jhilmil Colony, Vivek Vihar, Delhi-110095

Applications on plain paper must reach the undersigned within 20 days of the publication of this advertisement.

1. Post : Placement Co-ordinator (1)

Job Description : The job entails arranging final placement and training facilities for students and co-ordinating industry- interaction, seminars and workshops. He/She may be given some teaching and research assignments as well.

Qualifications and Experience : A good academic record with a high second class postgraduate degree in Management, Business Economics, Computers or Commerce, and at least 10 years' experience in industry with exposure to multiple Management disciplines including Marketing, General Management and Finance.

Some working experience in similar areas and teaching in academic institutions is desirable.

Pay Scale : Rs.3700-125-4700-150-5300 with other allowances as per University of Delhi rules.

2. Post: Lecturer (Two Permanent posts in Business Studies).

Qualifications: A good Academic record with at least a high second class in a Master's degree in Management/Business Economics/Commerce/Economics.

Desirable: One post for applicants with specialisation in Finance and second post with knowledge of Laws relating to Business or specialisation in Economics. Familiarity with case method and Executive/Consultancy experience will be an added advantage.

Pay Scale : 2200-75-2800-100-4000 with other allowances as per rules of Delhi University.

3. Post : Lecturer (2 Permanent posts in Computer Applications).

Qualifications: A good Academic record with at least a high second class in MCA/MSC/M.Tech.

Desirable: Knowledge of RDBMS or Networking and some Teaching and Industrial experience.

Pay Scale : 2200-75-2800-100-4000 with other allowances as per rules of Delhi University.

Dr. S.S.Gulshan
PRINCIPAL

AWADHESH PRATAP SINGH UNIVERSITY
REWA (M.P.)

ADMISSION NOTICE, JULY 1992

1. MASTER OF BUSINESS ADMINISTRATION (MBA): 2 Yrs. Course

2. P.G. DIPLOMA IN TOURISM MANAGEMENT (PGDTM): 1 Yr. Course

3. Application on prescribed forms are invited from GRADUATES or POSTGRADUATES in any discipline with atleast 50% marks (45% for SC/ST) in one of the exams. Final year degree students may also apply.

4. Relevant information including application form is given in INFORMATION BULLETIN of each course which can be had from Prof-in-Charge,MBA, Deptt. of B.E. for M.B.A. course and Prof-in- Charge, Tourism, Deptt. of AIHC & Arch for Diploma Course by sending a crossed Bank Draft of Rs 60 + 15 for postage = Rs. 75. 00 only payable to Registrar A.P.S.University, Rewa.

Last date for the receipt of completed application is **May 23, 1992.**

UNIVERSITY NEWS

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Opinions expressed in the articles are those of the contributors and do not necessarily reflect the policies of the Association.

Editor :
SUTINDER SINGH

MYSORE

STUDENT INDISCIPLINE

D. Venkateswarlu*

The Point

The students always manage to be in the limelight. Much of the publicity is to highlight their manifest and protest actions such as strikes, demonstrations, 'rasta rokos', 'dharnas', 'suicides in public' and so on and also some of the vandalic, arsonous actions like damage to college property, assault on the teachers or officials. One gains the impression from the media that the students are only organised mobs out to destroy everything they see and lay their hands on. The media is rather unfair to positive actions of the students such as their voluntary work through NSS or NCC, be it the laying of roads, clearing an open area of bushes, propagation of health and family welfare measures in the community, and so on.

The students, as an organised force, played a key role for the freedom of our motherland at the cost of their careers. Even in other lands such as revolts against the authoritarian regimes in countries like Philippines, Romania, and others, the students played a very effective role leading to the downfall of regimes, establishment of democratic institutions and shaping the destinies of their countries.

The purpose of this paper is to put the 'indiscipline' part of the students' actions in perspective. The focus here is on students in colleges and universities in India. Indiscipline, as is being generally understood, covers actions such as boycotting of classes, disrespect to teachers, damage to furniture, irregular attendance in classes and so on. Such acts are acts of indiscipline from the view of the society at large which looks at the 'students' as an alienated category. But the point is, to put it simple and straight, it is the society which is responsible for any acts of indiscipline among the students.

Students Part of the Social System

The students are a part and parcel of the social and cultural system of any society. They are born in that, get socialised and live in that and are dynamic beings of that. Therefore, they imbibe the same cultural values, attitudes, prejudices, inclinations, aspirations, anxieties, norms, perceptions about different institutions that they observe and participate in, and so on. "The task of any educational system is to transmit the values, knowledge, skills and behaviour required by the society for the individual to perform adult roles". In other words, the character, outlook and reactions among students are shaped by the society. The latter reflects in the former.

The society is not an abstract entity, although it may not function as a collective entity in every situation. It functions through its various institutions and groups. The family socialises the individual and gives him an identity. The caste and religion give him a status. Peer groups enhance his awareness about many matters. Educational institutions stretch his horizon of knowledge. Economic institutions and occupational groups train him in skills and equip him to earn his food. Political institutions and organisations sensitise and activate him. That being the situation, every individual, much less a student, only mirrors the society of which he is one dynamic being.(Fig. 1)

Psychological Aspect

The college and university student is in post-adolescent age which is on the threshold of adulthood but which can still be described as an immature age in terms of an objective judgement of issues and matters. They are still in an emotive and sensitive stage. They react to various situations by their

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**Reader in Sociology, S.V. University, Tirupati-517502(A.P.)*

emotional responses and impulsive attitudes, be it the scholarship issue, reservation issue, hostel problems, suspension of some students, and so on. The feeling of 'we are one' dominates in such situations and the students perceive threat to such a collective identity. And this dominates throughout their career. Even if the students are divided on ideological and organizational lines, yet their common perception does not change. Only the forms of protest and the manifestations of such actions may change. The means change but the end remains same. Such an emotive youth can be used for any purpose, be it constructive or destructive.

Further, as most of the students in India come from predominantly middle class background and more than half from the rural areas, they also reflect the frustrations and deprivations of the social and economic structures and inability to grasp the issues independently. Their outlook is restricted. Further, most of them are released for the first time from total parental control without a full mental equipment. They get easily frustrated with the demands of the educational system of colleges and universities, which are mostly located in urban areas. Thus, they find easy targets for ventilating their anger and frustrations – the college/university authorities, teachers, public or lifeless objects such as buses, trains, government property, and so on.

The societal context and the psychological equipment of the students should enable us to appreciate the conditions and causes that force the students to indulge in indiscipline. This is not to undermine the 'obvious', 'apparent' or the 'immediate' reasons that can be responsible for various acts of indiscipline but they are to be placed against the background explained above. Let us discuss such factors here.

Factors Responsible for Indiscipline

1. *Unmanageable Numbers*

The student strength in college and university campuses is too large to be in manageable proportions by the respective managements. Today there are 194 universities, 7,000 colleges, 2.5 lakh teachers and 4.5 million students in colleges and universities. The increase of number badly affects the teacher-student ratio, the infrastructural facilities and so on. Since the demands of such disproportionately large number of students cannot be met, they indulge in various acts of indiscipline.

2. *Teaching Standards*

These days any arts teacher would be addressing not less than 70 to 80 students, and the number is much larger in many of the private colleges. In one college in Pune, the teacher addresses at least 300 students and, imagine without even the mike facility. Can the teachers communicate better in such a situation? Would the students be attentive? The answers are too obvious.

3. *Declining Rapport with the Teachers and Administrators*

The teacher-student relationship is no more an ideal one. Gone are the days when the teacher himself used to pay the student's fee or help him financially. His pocket is no more bulky. In the present days, even a head constable earns much more than a lecturer. And it is impossible for either the teacher or the administrator to establish rapport with every student due to the large-size of the students. Such a lack of rapport may be responsible for many problems.

4. *Lack of Knowledge about Procedures*

The students often rake up an issue out of nothing either due to ignorance of the procedures or inadequate knowledge about them. Take, for instance, the frequent student strikes on the scholarship issue. The scholarship amount is to be disbursed by the Government and the college/university management has nothing to do with it. Yet, they often are at the receiving end.

5. *Politicization*

Almost every major political party in India has made its presence in college and university campuses. Clear alignment with the student wings of the parties on ideological lines is welcome in place of the communalisation of the students that was there in the campuses a few years ago and that is still noticed in some. But the parties often use the student wings for their own political ends, putting at stake the students' future.

6. *Absence of Disciplinary Actions*

When some students, in spite of some of their indisciplined acts deserving disciplinary action, get away due to inept handling or fear of further troubles, other stu-

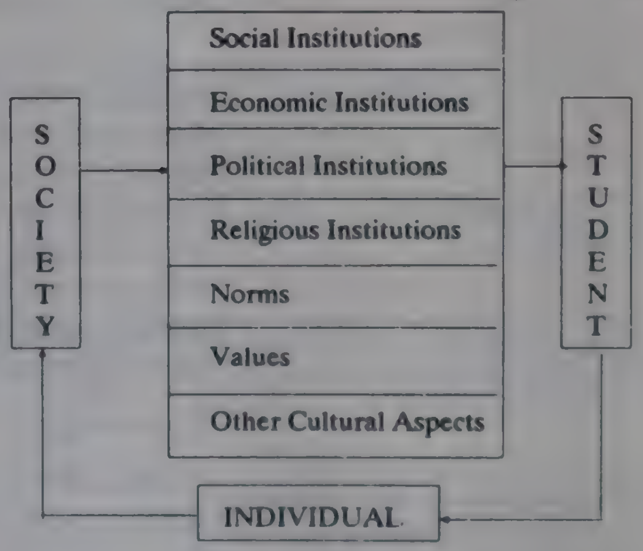

Fig. 1

dents would only be too glad to emulate, be it the eveteasing of a fellow student, assaulting a teacher, malpractice in examinations, and so on.

7. *Absence of Institutional Channels for Grievance Redressal*

Many colleges and universities do not have any official to look after exclusively the student welfare and some who do seem to be faring no better. It is left to the lot of the Principals and the Vice-Chancellors to tackle all kinds of student unrest. Sometimes, the issues would be so trivial that these officers would have to waste their precious time on them. Even such minor issues like delay in the payment of scholarships, lack of hygiene in the student mess, poor maintenance of student hostels are brought to the notice of the highest authorities. If there is an official with proper authority or a body of representatives drawn from students, teachers and the administration, many issues can be tackled at their level and situations like boycotting of classes or entire college going on strike can be avoided. Let us not feel and say, 'the student is always wrong'. A patient ear and a soothing word often may avert what may otherwise be an ugly situation.

8. *Inadequate Facilities and Ineffective Running of Institutions*

Dark, dirty rooms with no proper ventilation often serve as classrooms. Laboratories are invariably dusty and infested. You can imagine what concentration and attentiveness the students in stuffy and chilly rooms may have. There are few campuses which are tidy and clean and the libraries are always disorganised. All this act on the psyche of the students. There is always a limit to patience and tolerance. Stretched beyond that the student mood can only be boisterous.

9. *Poor Maintenance of Student Hostels*

The student hostels are always cramped. Consequently, even the serious students are unable to concentrate on their studies. Further, for the students, the hostel life is important; it is to be enjoyed to the full. But there are many problems — where a room is meant for two, four have to stay; the taps are either leaking or water is not in adequate supply; the fused bulbs in bath rooms are not replaced soon; the bolts to the toilet doors are missing; the food served in the mess is not enough and always badly cooked, and things like that. These matters often cumulatively affect the students in such a way that they feel irritated and blow up the matters to serious levels.

10. *Politicking by Teachers, Research Scholars and Administrators*

It is a common sight to find the teachers conversing informally during their free time. Some teachers do only that all the time without bothering about their duties and responsibilities. To cover up their inefficiency in teaching and research, they instigate one section of the students against others, fellow teachers or administrators. Many research scholars and some administrators also do that to safeguard their interests and positions.

11. *Societal Factors*

Some factors from beyond the campus also affect the students. Factors like rising unemployment, poverty, corruption, financial crisis of the country and calamities like wars affect the students drastically. Their implications are directly felt by them and may not be correctly understood. Any misunderstanding may lead to a situation of the college management being targeted for these crises and problems.

12. *Incongruities Between the Curricula and the Country's Demand*

There is no connection whatsoever often between the degrees and the jobs that the degree holders are ending up in. Imagine a postgraduate gold medallist in physics ending up in IAS or as a bank officer. What use is his knowledge of sound and matter in deciding on land or money matters?

Alternatives and Solutions

It is not that there are only problems and no solutions. There are and some may be considered here.

1. The students, as has already been stated, are an organised force. That force can be used for constructive purposes also, so as to wean them away from the clutches of vested sections. They can be made active participants in relief teams to flood hit or quake hit areas, literacy movement, propagation of science and other such missions. They should be allowed to play their social roles, be the dynamic beings of the society and should be allowed to prove their asset to the society. That way, they also will imbibe a sense of responsibility and commitment to the society at large. The NCC and the NSS orgnaisation are already doing that but their work is limited and always for an end, the certificates which fetch the students seats in higher courses of study. What is needed is to involve all sections of the students in a purely voluntary effort.

2. Since the prospect of unemployment is responsible among other things for a sense of frustration among the students, vocationalisation of education must be brought about to create a feeling of security and purpose among the students. This has already been thought of by the powers that be, but should be vigorously and seriously implemented.

3. If we reconcile ourselves to the politicisation of the

(Contd. on page 10)

WOMEN'S EDUCATION

A Vision of Dr. Rajendra Prasad

K.C. Vashistha*

Dr. Rajendra Prasad, the first President of Indian Republic was the embodiment of our cultural, social values in true sense. He was not only a saint politician as Gandhiji described him "Ajatshatru" but a unique blend of exalted spirit of education, politics, law, religion, and literature. Thus India got her first son of soil and gave him all responsibilities to write her destiny in crucial phase of bewilderness and confusion. Dr. Sarvepalli Radhakrishnan spoke of his qualities as :

> "He is the first citizen of our country, and also the first gentleman of our country. He is a soul of simple goodness and gentleness. Anyone who gets to know him well feels the kind of innocent benevolence he extends to all those who happen to be in his company."

He had sowed the seeds of his talent and deep thinking when he was humble Congress member working with Gandhiji. In 1937 he was the member of the Basic Education Committee along with Dr. Zakir Husain. He proposed the launching of Central Schools all over India with uniform educational pattern in the meeting of first National Integration Committee. This is the exclusive contribution of Dr. Prasad towards National System of Education as well as National Integration.

In his speeches made during his Presidential tenure and writings in various forms—letters, memoirs, autobiography—he has touched all the spheres of Indian Education. Here in this paper an attempt has been made to highlight the vision of Dr. Rajendra Prasad with regard to Women's Education which has acquired national and international momentum in present perspective.

With rational views about education of girls, Dr. Rajendra Prasad held that one of the greatest needs of the day was the spread of education among women. He was fully conscious of the important role of women in national progress and social freedom. In his words :

> "Man must continue weaving new patterns into the texture of the culture inherited from the past. The most important activity for mankind is the development of man himself. Since the dawn of history, this has been and still is the task and mission of women. It is they who transmit the heritage of the past to the future generations and it is they who protect this heritage within the realm of family and society. Even when there were no state, no churches and no priests, women were the protector and the preserver of the social bonds and traditions. If the past, the present and future were not linked by her tender body into an organic whole, there would have been neither any civilization nor any history. It is, therefore, all the more necessary for our women to realise their great role in social life."

Exemplifying the women of ancient India he said :

> "I believe you all know that women occupied a position of great importance and dignity in ancient India – that they played an enviable role in domestic and social life and made a splendid contribution to an all-round development of society by virtue of their ingenuity, intellect and spirit of sacrifice.... the achievements of Sita, Savitri, Gargi and Kalavati are proud memories for us.....The character of our women in the past was exalted and traditions glorious and they can still be cited as examples for the women today.... I am saying all this to bring home to you that the woman is an incarnation of divinity (Devi), a sustainer (dhatri), a creative energy which conduces to the growth and welfare of human society. By virtue of creative power you can work in and outside the home for an all-round progress of society. Thus your responsibility is commensurate with your power. I attach great importance to the education of girls for these and similar reasons."

Dr. Rajendra Prasad considered the role of women important in building hopes and expectations in people. He said :

> "We are today passing through a period of transition. We have to so organise our life that every individual of our country hears the call of his being and fulfils it. There are many people in our

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*Department of Foundations in Education,
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> country who are not in a position to have any hopes or expectations. Our women have a great part to play in this connection as the mental and physical contact of women with life much more lasting and comprehensive than that of men. Not for nothing was it said that "the hand that rocks the cradle rules the world." In the apron strings of women is hidden the revolutionary energy which can establish paradise on earth."

Though being highly in favour in education of women, Dr. Rajendra Prasad contended that the primary duty of a woman is towards her home. In his words :

> "However noble be our ideals and whatever system of Government we establish, however liberal and equitable be our economic and social philosophy, we cannot bring lasting peace and prosperity to our country unless the physical and mental make-up of our coming generation has sound foundations. I, therefore, hold that women can play a much more vital role in the home than in the factory or in the office."

However, Dr. Rajendra Prasad did not want that women should be confined to the four walls of the house. He held that alongwith their domestic life they should have freedom to participate in various social activities.

> "I believe that complete freedom of women is necessary for the progress and health of society. Freedom, however, implies that the best use of freedom is made in promoting the interests of all human beings. The freedom of our women should lie in their assuming the duty and the right of developing the body, the mind and the character of the next generation. Nature has made women the nurse of the body and the nurse of the spirit. All those evils in our present day society which present our women from carrying on the noble mission should be totally eradicated. The necessary changes must be introduced in our society in order to provide full opportunities for the unrestricted development of our women.....Women should assume their role as the ministers of the mind and spirit of men."

Reminding women of their great responsibilities towards family and country, he said :

> "She should be able to cooperate fully with man in house life. She should be good house-wife and should not look down upon the smallest household duties. It would be unfortunate if higher education led women to shirk or shun their domestic duties. A woman's real dignity lies in her efficiency and self-reliance. Some interpret independence narrowly as being equipped for a job or profession. But true independence implies minimum dependence on others. It is not independence to manage the entire work of the household? Conversely, it is the worst form of dependence to need a nurse for the upbringing of one's children..... nay, even for giving them a breast-feed. Therefore, true self-reliance means minimum dependence whether of the mistress or maid or vice-versa. Nature and God have chosen women for the task of perpetuating the human race..... Women as well as society must realise the implementation of this proud and unique responsibility and it must be reflected in whatever system of education is adopted for them. It is not necessary that men and women should do all types of work. This is not nature's dispensation. The woman must therefore equip herself for her primary responsibility..... a responsibility which does not end but begins with procreation and entails lifelong efforts for the betterment of men. Our girls must be educated in all these basic duties of women so that they can play their role in the advancement of the nation."

Regarding the curriculum of women education Dr. Prasad was in favour of inclusion of such subjects as would give to its "students a clear understanding of the role of women in the evolution of human civilization and culture. It should also make provision for such practical training as would enable its students to change the life of the common people of India in a peaceful and creative manner."

It is evident from the above views of Dr. Prasad that he was fully conscious of the important role the women had to play in family, social uplift and national progress. He, thus, attached great importance to education of women. He emphasised that their education must be in accordance with their future needs and should make them efficient in household affairs. He had great faith in ancient traditions and high ideals of cultured womanhood in our country in the past and therefore advocated a system of education for women characterised by a proper blending of our old lofty ideals and conception about duties of women, with the really progressive ideas of today for a healthy national reconstruction. Women, he held, can make the family and communal life of the country a temple of love, cooperation and happiness.

Role of Teachers in Higher Education

Manisha Pande*
Arvinda Chandra**

Each individual in any society has a status or position which is defined as a location of an actor or class of actors in the system of social relations. How the actor actually performs in a given situation is referred to as a role.

Role, therefore, can be defined as expectations assigned to the individual on the basis of the position he/she occupies, and in terms of actual behaviour performed.

The educational institutions also comprise a number of positions or statuses occupied by a number of actors, of which one important position is of actors referred to as teachers.

It is evident from the dawn of history that the knowledge is accumulated and is being passed from generation to generation through the pious duty of the teaching profession where the teachers are expected to act as pivots in gathering relevant knowledge, sifting it to dust the obsolete, and passing it on to the student community.

The teachers, therefore, should keep themselves abreast with latest relevant information and knowledge. Moreover, teachers should be aware of their behavioural expectations, that is, shared expectations of the fellow teachers, students and administrators, who are the immediate members of the academic community.

A University teacher, today, is expected to play three roles namely of Teaching, Research and Extension. The UGC policy framework (1981) declares that after teaching and research, extension or community service is the third most important responsibility of higher education.

ROLE OF TEACHING

The role of teaching is said to be the most strategic in the system of higher education. Teachers' role in course designing, devising teaching — communication methodologies, and carrying out actual teaching, determines largely the quality of individuals to be trained through universities, who, in turn will be expected to hold responsible positions in the society.

The teachers are considered the primary source of generating desired knowledge, developing desired abilities and skills, cultivating desirable values and attitudes, and engaging students in the community development programmes.

An effort, hereby, is made to enlist specific role activities of teachers in further sub categories of Teaching as of instructor, communicator and evaluator.

Instructor

As instructor the teacher is expected to plan for effective organisation and imparting of knowledge, thoughts and skills to students, and guide/direct them for the same.

Role Activities

- Keeps thorough with subject matter knowledge.
- Determines the objectives of the course to be in line with the mental level of students.
- Restates the objectives of the course in terms of the changing nature of students' knowledge and behaviour.
- Plans the content to be:
  a) in line with the objectives.
  b) in logical sequence.
- Plans for effective instructional devices:
  a) method of teaching appropriate to students and subject matter.
  b) teaching aids appropriate to students and subject matter.
- Prepares lectures taking references of latest books and journals.

Communicator

As communicator a teacher is expected to transfer/transmit information, thoughts, knowledge and skills to students, as well as, provide and receive feedback from them.

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Role Activities

- In the beginning of the session explains the details of the courses as follows :
  - a) defines clearly the objectives.
  - b) explains the content to be covered.
  - c) informs about the learning experiences to be provided.
  - d) announces the number and types of evaluations to be conducted.
  - e) provides up-to-date references of books/journals.
- Maintains the sequence of subject matter while teaching.
- Maintains a well modulated voice throughout the class.
- Uses the vocabulary within the range of students' comprehension.
- Writes legibly on the blackboard.
- Uses various methods of teaching.
- Uses various teaching aids.
- Relates the course content to students' background.
- Invites students to present reports/papers.
- Provides examples from daily life experiences.
- Encourages all students to participate in class discussions.
- Praises the good answers given by students.
- Repeats the subject matter not understood by students.

Evaluator

As an evaluator the teacher is expected to judge the students' learning in terms of their achievements, progress, goals attained and the lapses.

Role Activities

- Periodically evaluates the students' progress by tests/assignments.
- Communicates the test/submission dates well in advance.
- Assigns projects/assignments keeping in mind ability/interests of individual students.
- Plans test papers considering :
  - a) stated objectives.
  - b) substantial representation of content.
  - c) principles of test construction.
- Prepares test papers including variety in questions such as:
  - a) objective type :
    - True and False
    - Matching Items
    - Multiple Choice
  - b) Subjective type :
    - Eassy Type
    - Short Answer
- Prepares test papers that call for both – comprehension and application.
- Prepares and provides students with model answers for tests/assignments.
- Gives assignments that are thought-provoking.
- Gives assignments that call for references from latest books/journals/magazines.
- Prepares projects/assignments that call for self study/initiation, as well as individual and group ability.
- Returns the corrected tests/assignments well in time.
- Discusses the performance in tests/assignments with students, in class.

ROLE OF RESEARCH

One of the best means of strengthening college programme is research. It is considered to be formal, systematic and intensive method of analysis. The areas of ignorance are pushed back by discovering new truth and facts, which in turn lead to better ways of doing things and new and better ways of life.

Lippeat (1965) states research to be the "life blood of a profession".

Dr Goheen expressed "In the College or University, research and teaching are the two poles of the same magnet, neither has much force without the other. It keeps the teacher alert and regenerates his/her from fossilised ideas. Teaching is always benefited by research". (In Mehta 1985).

Since a College or University is a community of scholars, research is a part of its tradition. The expectation is that the teachers will not only transmit knowledge but will also enquire into its nature and depth, extend its boundaries and thereby expand their understanding. Today, this role is perceived as one of the most important and status conferring by all academicians.

Research, therefore, helps to generate new ideas and information to keep up with the rapidly moving and changing world.

In research, teachers are expected to enact the role of researcher and research guide, the role activities of which are enlisted as follows :

Researcher

As researcher a teacher is involved in the investigation of a research study/project independently or in team which may or may not be funded by some agency or institution.

Role Activities

- Reads Research publications on related areas of study.
- Explores areas of study having present and future usefulness.
- Undertakes research projects to make a contribution to one's area of study.
- Visits various research institutions/libraries for shaping research proposals.
- Formulates research proposals keeping in mind the subject matter of research methodology.
- Consults colleagues/senior staff for suggestions when necessary.

When undertaking research study funded by some agency :

- Makes available required materials/equipments.
- Guides the junior research staff in each phase of the research study.
- Keeps checking the progress of the study.
- Reports the progress of the study from time to time to the finance agency.
- Publishes recommendations through articles written on various aspects of the research study.
- Reads papers based on the conducted researches in conferences/seminars/group discussions.

Research Guide

As Research Guide a teacher directs and guides students (M.Sc/M.Phil. /Ph.D.) in conducting research.

Role Activities

- Encourages students to read research articles on one's area of study.
- Helps students to explore new areas of study.
- Helps students to develop research proposals.
- Encourages students to get financial aid for research work through research grants/scholarships.
- Makes students aware of the possible sources of information which will help in research work.
- Gives directions at every stage of the research study such as formulation of objectives, assumptions, hypotheses, methogology, tool construction, data collection, data analyses, findings and interpretation.
- Encourages students to bring forth original ideas.
- Evaluates the research work of students at every stage.
- Helps students to get information about research publication agencies.
- Encourages students to write research articles for publications in journals/magazines.

ROLE OF EXTENSION WORK

The universities and colleges are the national institutions supported by the resources of the society. According to the UGC policy framework (1981):

> "In both the developing and developed countries, the resources required for the maintenance and growth of the education level constitute portion of total budgetary resources. The University system should be responsive to the needs of the society and fulfil its social obligations and responsibility towards various social groups especially deprived groups like industrial workers, slum dwellers, farm workers and the rural poor."

India like any other developing country today expects her teachers not to limit their roles to their classroom and the students but to assume a wider role that would involve them in the development work of the larger community such as extending the desired knowledge, interpreting recent trends in the field, creating scientific temper in communities and actively participate in various community development programmes. This has been stressed by several commissions on education and has been reinforced in many papers presented at national seminars on teachers.

Extension education or community development programmes are given due emphasis in Home Science institutions. There is a specialised department of Extension Education. The prescribed courses involve programmes which call for a close interaction with the community. These include rural development and nonformal education programmes including action oriented research programmes. Thus it becomes imperative on the part of the teachers to interpret the needs of the community, create scientific temper and awareness, and participate in programmes of community upliftment.

As education does not function in vacuum, and it reflects the characteristics of the society which supports it, and to which universities try to serve, the teachers need to be conscious of their social indebtedness and enact the roles they are expected to perform and for which they are responsible.

The teachers in extension work can play the roles as Extension Worker and Extension Work Guide.

Extension Worker

As Extension Worker, a teacher is involved in activities for the upliftment of weaker or deprived communities in both rural and urban areas.

Role Activities

- Reads local newspapers, magazines regularly.
- Keeps aware of the state of weaker communities (like villages, urban slums) with regards to their :
  - living conditions
  - problems
  - welfare programmes
- Participates in the community upliftment programmes.
- Identifies the needs of community people.
- Plans need based programmes for community people.
- Acts as resource person for community upliftment programmes.
- Informs the people about the local resources available (Example – saving bank schemes, welfare centres for children, voluntary organisations, free education for girls/boys.
- Explores the media which can be effective in communicating with the community people (Example – puppets, films, television/video slides, flashcards, flannel graphs).
- Encourages people to get information suitable to their daily needs by seeing TV in their local centres/hearing to specific radio programmes.
- Evolves programmes which contribute to welfare of community people (Example – discouraging child marriage, dowry system, superstitions/taboos/relying solely on local treatment in illness.
- Encourages to form people organisations.

  (Example – Mahila Mandals, Balwadi, Youth Clubs, Co-operatives).
- Educates people on national issues of their concern.

Extension Work Guide

As Extension work guide a teacher guides students in carrying out extension work in weaker sections of urban or rural communities.

Role Activities

- Helps students to develop genuine interest in extension work.
- Encourages students to get grasp over extension methods and media.
- Encourages students to read local newspapers, magazines and articles on rural/urban areas.
- Helps determine the needs and interests of the people.
- Guides in surveying the needs and interests of people.
- Guides in planning need-based programmes keeping in mind the resource materials, resource persons, timings and place for conducting the programmes.
- Helps students explore agencies/organisations beneficial to the weaker communities.
- Encourages students to plan meaningful programmes (Example – on literacy, health and hygiene, civic consciousness, income generating activities, population education, superstitions/taboos).
- Helps plan result-oriented programmes. (Example – electrification, road construction, water connection, toilet construction and so on in communities.
- Guides students with lesson plans such as clearly stating the objectives, content, method and materials for teaching the community people.
- Appraises further improvements to be made by students.
- Observes the satisfaction of community people for the implemented programmes.
- Considers suggestions of the community people for further improvements of the programme.
- Solves the problems faced by students in implementing the programmes.
- Encourages students to render services at the time of mishaps like floods, drought, accidents and earthquakes.

It cannot be denied that a university teacher both in agricultural and non-agricultural universities have an indispensable role to play as Teacher, Researcher and Extension Worker.

Unfortunately, teachers today are maligned as less efficient. Decline of faith has been found in education generally and in colleges and universities in particular.

The Universities should pay attention to a few challenging questions, viz :

a) What qualities of mind and character enables teachers to play their roles effectively?

b) How to help teachers utilise their academic interests and retain them?

c) How to sensitise teachers to the roles expected of them as and when updated?

d) How to identify measures to locate potentials for performance of the enumerated roles and retain them?

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STUDENT INDISCIPLINE

(Contd. from page 3)

university campuses, we should only appeal to the political parties to properly orient the students in their ideology so that the students in their unfettered enthusiasm, do not contradict the same through their actions. Further, the parties should, by a consensus, refrain from using the students for narrow political gains and issues that are not of the concern of the students.

4. Grievance cells should be started in all higher educational institutions and, where they are already working, they should be thoroughly revamped. These cells should have a representative character comprising the representatives of the students, teachers and the administration, and they should have some official powers so that they can function effectively.

5. A regular exposing of the students to important happenings and events in the country and abroad may be undertaken so that they develop a holistic view of the entire human society. This can be done through lectures or discussion fora. Once such a holistic view is inculcated, the students will learn to look at things in a broad context and not from a parochial or emotive angel. It will also go a long way in extending the horizon of student's knowledge.

6. The students should be treated as responsible adults. Things should not be imposed on them. In matters such as conduct of elections to the student unions, managing the student mess, organising the college day and so on, the students themselves should be allowed to show initiative and play a dynamic role.

In conclusion, it may be said again that the 'indiscipline' among the students is only one aspect but that also has to be placed in the total social context. The students should not be merely viewed from a negative angle, but can also be used as a strong force for many constructive purposes.

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How Effective are Orientation Programmes of ASCs
Analysis of Participants' Evaluation

M.M. Rehman*
K. Biswal**

Introduction

In 1970s and early 1980s, one of the major conflicts in higher education sector in India was between expansion and improvement of quality of collegiate education. As teachers play an important role in the improvement and maintenance of quality of education, UGC initiated the process of training and enhancement of teaching skills of teachers by setting up of several Academic Staff Colleges (ASCs) all over India in mid-1980s. The basic objective of these ASCs is to reorient and refresh teachers in higher education about the latest developments in various subjects. This is hoped to improve the quality of teachers by raising their teaching efficiency. However, it is also pertinent to know the quality of orientation and refresher programmes conducted by different ASCs. Towards this objective, ASCs were directed to evaluate their programmes by their participants. This paper, therefore, makes an attempt to analyse the evaluations already done by the participants of orientation programmes of each individual ASC. Here, by using participants' evaluation data of 12 ASCs we have tried to look into various aspects of courses/curricula (Sec. 2); teaching-learning process (Sec.3); teaching and reference materials (Sec.4); impact of the programmes (Sec.5); and physical facilities and duration of programmes (Sec.6). In the concluding section we have looked into the role of ASCs in improving quality of higher education in India.

Orientation programmes for newly recruited teachers and teachers with 5 to 8 years of experience are organised by the ASCs for four weeks. At the end of each programme participants are requested to evaluate various academic and organisational aspects of the programme. The Directors of ASCs were requested to send their analyses of evaluation by the participants of various programmes. During March, 1990 and April, 1991, 22 ASCs sent responses on participants' evaluation on some aspects of the programmes. However, the information given by some of the ASCs was in an aggregate form, yet some other ASCs gave the information separately for each of the programmes. This called for aggregation of their evaluation of each programme. Here, an analysis has been attempted on the basis of comparable information for only 12 ASCs. These covered 1372 participants of orientation programmes out of the total number of oriented participants during the year 1990-1991.

The purpose of this analysis is to give the methodology as well as to indicate that such analysis could be carried out by each of the ASCs regularly and a consolidated analysis for all the ASCs should be carried out annually so as to find out how do participants rate the programmes. Though the analysis is based on the response of 29.04 percent of the total participants for this year, yet the analysis could be viewed as an indicative of the rating of the various aspects of the programme by the participants.

Table 2 given at the end of this paper provides detailed information about the participants' evaluation of various aspects of orientation programmes conducted by 12 ASCs during the period 1990-91.

Status of Courses/Curricula

Level of the Programme

It could be seen in Table 1 that as regards level of courses, 85 percent of the total of 336 respondents assessed the level of the programmes conducted by ASCs as 'adequate,' 12 percent as 'less than adequate' and the rest 3 percent as 'not at all adequate'.

Quality of the Programme

The next important aspect on which the participants have given their assessment is the quality of the programmes. The figures in Table 1 show that out of the total of 225 responses, 73 percent assessed the quality, as 'uptodate', 23 percent as 'not so uptodate' and the rest 4 percent rated it 'obsolete'.

Teaching-Learning Process

Communication Skills

Since communication plays a vital role in teaching-learning activities, evaluation of this aspect by the par-

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ticipants was also made. Data on this aspect revealed that out of the total of 329 participants, 75 percent indicated that the communication process was 'very effective', 20 percent assessed it as 'not so very effective' and the rest 5 percent as 'not at all very effective'.

Instructional Methods

Evaluation of instruction methods revealed that out of 153 respondents, majority (66 percent) had assessed it as 'innovative' and 32 percent, as 'not so innovative'. As compared to previous aspects, on this aspect, the responses on 1st level scale have shown some fall. This revelation hence calls for proper appraisal of the instructional methods used in orientation programmes.

Resource Persons

Resource persons are very important in the process of development of the academic staff. The figures in the Table 1 on this aspect reveal that out of a total of 1,350 participants, 43 percent rated the resource persons as 'very competent', 52 percent rated them 'competent' and the rest 5 percent 'not so competent'. The responses are no doubt reliable so far as the quality of resource persons was concerned. It should, however, not generate self-complacency. On the contrary, avenues should be explored to upgrade the quality of the resource persons who act as catalyst in the process of dissemination of knowledge and information.

TABLE 1

Participants' Evaluation of 16 Aspects of Orientation Programmes conducted by ASCs, 1990-91 (based on 1,372 teacher responses from 12 ASCs)

(in percentages)

S. No.	Aspects	Total no. of respondents	1*	2*	3*
1.	Level	336	85	12	3
2.	Quality	225	73	23	4
3.	Relevance	387	81	17	2
4.	Communication	329	75	20	5
5.	Instructional Method	153	66	32	2
6.	Reading Material	990	53	39	8
7.	Resource Persons	1350	43	52	5
8.	Library Services	1356	46	41	13
9.	Hostel Services	708	44	41	15
10.	Extent of Participation	1347	52	45	3
11.	Background Documentation	563	47	43	10
12.	Duration	1309	28	67	7
13.	Broadening Approach	1226	40	59	1
14.	Inspiring	1269	46	52	2
15.	Skill of Development	1274	63	34	3
16.	Possibility of Implementation	1358	44	55	1

Note : 1*,2* & 3* represent the scale of qualitative responses. This three-point scale represents 1 for good, 2 for average and 3 for poor.

Teaching and Reference Materials

Text and Reference Materials

An analysis of data regarding reading materials shows that of 990 respondents, 53 percent assessed it as 'sufficient', 39 percent 'not so sufficient' and the rest 'not at all sufficient'. The assessment levels indicate that the supply of reading materials has to be augmented both qualitatively and quantitatively.

Background Materials

The assessment of the participants about the supply of background documents shows that, of the total of 563 respondents, 47 percent assessed it as 'quite useful', 43 percent as 'of limited use', and the rest as 'not so useful'. This also implies that the supply of background materials by ASCs need to be augmented.

Library Services

On the aspect of library services, the figures reveal comparatively positive picture. It could be seen in Table 1 that 46 percent of the total of 1,356 respondents have rated it as 'good', 41 percent as 'satisfactory' and 13 percent as 'not so satisfactory'.

Impact of the Programmes

Broadening the Approach

Evaluation was also made about the aspects like 'broadening the approach' and whether the programmes were 'inspiring'. The evaluation of the participants shows that on the broadening the approach, 40 percent of the 1,226 respondents rated it on the scale 'to a great extent', 59 percent on the scale of 'to some extent' and the rest 1 percent on 'not at all' scale. Thus, the success of various orientation programmes in broadening the approach of the participants is somewhat limited.

Skill Development

On skill development, the evaluation figures given by the participants show that 63 percent of 1,274 respondents rated it as 'adequate', 34 percent as 'not so adequate and 3 percent as 'not at all adequate'.

Inspiring

Similar response patterns (as of skill development) could also be found on the aspect of 'inspiring' of orientation programmes.

Possibility of Implementation

Similarly, on the aspect 'possibility of implementation', the evaluation responses given by 1,358 participants reveal that 44 percent rated on the scale 'to a great extent', 55 percent on the scale 'to some extent' and the rest on the scale 'not at all'.

Extent of Participation

The assessment of the extent of participation by the participants in the programmes shows that 52 percent of the total of 1,347 participants rated it that everybody 'participated enthusiastically', 45 percent rated it on the scale 'participation was satisfactory' and only 3 percent assessed it negatively on the scale 'was not satisfactory'.

Physical Facilities and Duration of Programme

Hostel Services

Hostel services provided by the ASCs to their participants seem to have improved a great deal if a comparison is made with the past few years' scenario. Of the total of 708 respondents, 44 percent, 41 percent and 15 percent of total participants rated it as 'good' 'satisfactory' and 'not so satisfactory' respectively.

Duration

The evaluation on the aspect 'duration' of the programmes, by the participants, reveals that 28 percent of 1,309 participants rated it 'too long', 67 percent as 'just alright', and 7 percent as 'too short'.

Conclusion

The important conclusion which can be drawn from the evaluation/assessment made by the participants of the orientation programmes organised by the ASCs is that the ASCs have been able to establish their credibility in developing teaching skills of teachers in higher education. This is clearly reflected by the level of opinions given on various scales on different aspects as described above and particularly on skill development. Moreover, the programmes *per se* and the Academic Staff Colleges seem to have weathered the fear of the 'hidden future' away, a great deal, over the past few years. An overview of the 'assessment-scenario' given here clearly establishes this constructive perspective.

Though the number of ASCs who provided quantitative data and information are only 12 out of a total of 47 colleges and the number of participants who responded constitute only 30 percent, yet positive responses on various aspects of the programme by a large portion of participants is an indication of the success of the programmes. Keeping in view the various limitations of ASCs on the one hand and the success of their programmes over the past years, now there is the need to further strengthen the physical as well as financial resources of these crucial institutions of higher education in India.

(The authors are grateful to Dr. G.D. Sharma, Senior Fellow and Head, Higher Education Unit, NIEPA, for his suggestions and comments on this paper.)

Table 2

Participants' Evaluation of 16 Aspects of Orientation Programmes conducted by ASCs, 1990-91 (by individual ASCs)

A. Level, Quality and Relevance

S. No.	Name of the University		LEVEL			QUALITY			RELEVANCE		
			1			2			3		
		TOTAL	Adequate	Less Adequate	Not at all Adequate	Upto date	Not so upto date	obsolete	Relevant	Not so relevant	Not at all relevant
1.	Andhra	147									
2.	Bharathidasan	91	**								
3.	Bihar	45	30(67)	12(27)	3(7)	25(56)	15(33)	2(4)	30(67)	14(31)	1(2)
4.	Calicut	55							50(91)	5(9)	–
5.	Goa	78	50(54)	21(23)	1(2)	51(55)	21(23)	1(1)	49(53)	22(24)	2(2)
6.	Madras	121	116(96)	2(2)	3(2)	108(90)	7(6)	5(4)	106(88)	12(10)	2(2)
7.	Marathwada	20	19(95)	1(5)	–	18(90)	2(10)	–	18(90)	2(10)	–
8.	Mysore	98									
9.	Jodhpur	131									
10.	Karnatak	482									
11.	Jaipur	78	72(92)	3(4)	3(4)	72(92)	6(8)	–	59(76)	12(16)	3(4)
12.	Ranchi	26									
	Total	1372*	287(85)	39(12) 336(100)	10(3)	166(74)	51(23) 225(100)	8(4)	312(81)	67(17) 387(100)	8(2)

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* The column total may not tally with the grand total of participants because some participants did not respond.

** Figures in parentheses indicate percentages of total.

B. Communication, Instructional Method and Reading Material

S. No.	Name of the University	COMMUNICATION			INSTRUCTIONAL METHOD			READING MATERIAL		
		4			5			6		
		Very effective	Not so effective	Not at all effective	Innovative	Not so innovartive	Traditional	Sufficient	Not so sufficient	Not at all sufficient
1.	Andhra									
2.	Bharathidasan									
3.	Bihar	22(49)	20(44)	3(7)				14(31)	14(31)	17(38)
4.	Calicut							19(36)	30(55)	1(1)
5.	Goa	45(48)	24(26)	3(3)	35(38)	40(43)	–	47(51)	23(25)	2(2)
6.	Madras	96(80)	14(12)	7(8)				84(70)	19(16)	17(14)
7.	Marathwada	16(80)	4(20)	–				17(85)	3(15)	–
8.	Mysore							33(34)	56(57)	9(6)
9.	Jodhpur							241(5)	207(43)	34(7)
10.	Karnatak	69(88)	3(4)	3(4)	66(84)	9(12)	3(4)	59(76)	15(20)	3(4)
11.	Jaipur							7(28)	19(72)	–
12.	Ranchi									
	TOTAL	248(75)	65(20)	16(5)	101(66)	49(32)	3(2)	521(53)	386(39)	83(8)
			329(100)			153(100)			990(100)	

C. Resource Persons, Library Services and Hostel Services

S. No.	Name of the University	RESOURCE PERSONS			LIBRARY SERVICES			HOSTEL SERVICES		
		7			8			9		
		Very competent	Competent	Not so competent	Good	Satisfactory	Not so satisfactory	Good	Satisfactory	Not so satisfactory
1.	Andhra	52(35)	90(60)	5(5)	49(33)	80(54)	20(13)	51(34)	68(46)	30(20)
2.	Bharathidasan	39(43)	50(55)	2(2)	61(67)	27(30)	3(3)	–	–	–
3.	Bihar	17(38)	23(51)	5(11)	7(16)	8(18)	29(64)	4(8.90)	22(49)	17(38)
4.	Calicut	5(09)	39(72)	11(9)	5(9)	40(73)	10(18)	15(27)	10(18)	3(6)
5.	Goa	43(46)	27(29)	1(1)	24(26)	33(35)	18(19)	45(48)	24(26)	4(4)
6.	Madras	103(85)	12(10)	6(5)	79(65)	30(25)	18(15)	79(65)	40(33)	2(2)
7.	Marathwada	16(8)	4(20)	–	13(65)	7(35)		15(75)	4(20)	–
8.	Mysore	24(24)	71(72)	2(2)	31(32)	53(55)	16(16)	34(35)	48(49)	(10)
9.	Jodhpur	45(34)	72(55)	–	72(55)	56(43)	1(1)	35(27)	46(35)	25(19)
10.	Karnatak	144(30)	304(63)	34(7)	227(47)	207(43)	48(10)	–	–	–
11.	Jaipur	72(92)	3(4)	3(4)	59(76)	15(20)	3(4)	36(48)	25(32)	(8)
12.	Ranchi	17(64)	9(36)	–	–	5(20)	20(80)	–	2(8)	24(92)
	Total	577(43)	704(52)	69(5)	627(46)	561(41)	168(13)	314(44)	289(41)	105(15)
			1350(100)			1356(100)			708(100)	

D. Extent of Participation, Background Documentation and Duration

S. No.	Name of the University	EXTENT OF PARTICIPATION			BACKGROUND DOCUMENTATION			DURATION		
		10			11			12		
		Partici-pated Enthus-iastically	Partici-pation was satis-factory	Was not satis-factory	Quite useful	Of limited use	Not at all useful	Too long	Just all right	Too short
1.	Andhra	114(78)	28(19)	5(3)	52(35)	69(46)	28(19)	1(7)	134(90)	14(9)
2.	Bharathidasan	39(43)	46(51)	6(7)	73(49)	73(47)	6(4)	45(30)	104(70)	–
3.	Bihar	25(56)	19(42)	–	5(11)	21(47)	18(40)	15(33)	29(64)	–
4.	Calicut	25(45)	30(55)	–						
5.	Goa	23(25)	50(54)	2(2)	32(34)	34(37)	4(4)	29(31)	37(40)	1(1)
6.	Madras	87(72)	12(10)	10(8)				72(60)	13(26)	5(4)
7.	Marathwada	7(35)	13(65)	–	15(25)	5(25)	–	2(10)	12(60)	–
8.	Mysore	25(26)	70(71)	3(3)				14(15)	65(66)	7(7)
9.	Jodhpur	76(58)	51(39)	–	87(66)	41(31)	–	38(39)	90(69)	–
10.	Karnatak	192(40)	274(57)	14(3)	–	–	–	77(16)	347(72)	58(12)
11.	Jaipur	72(92)	3(4)	3(4)	–	–	–	59(76)	13(16)	3(4)
12.	Ranchi	15(60)	10(40)	–	–	–	–	8(32)	15(60)	2(8)
	Total	700(52)	606(45)	41(3)	264(47)	243(43)	56(10)	360(28)	859(67)	90(7)
			1347(100)			563(100)			1309(100)	

E. Broadening Approach, Inspiring, Skill Development and Possibility of Implementation

S. No.	Name of the University	Broadening Approach			Inspiring			Skills of Development			Possibility of Implementation		
		13			14			15			16		
		To a great extent	To some extent	Not at all	To a great extent	To some extent	Not at all	Adeq-uate	Not so adeq-uate	Not at all adeq-uate	To a great extent	To some extent	Not at all
1.	Andhra	55(37)	90(60)	4(3)	59(40)	81(54)	9(6)	67(45)	71(48)	–	51(34)	89(60)	3(2)
2.	Bharathidasan	55(37)	91(61)	3(2)	(53)	(47)	(0)	62(68)	29(32)	–	34(37)	57(63)	(0)
3.	Bihar	20(44)	24(53)	–	13(29)	31(69)	–	18(40)	26(58)		20(44)	24(53)	–
4.	Calicut	15(27)	40(73)	–	15(27)	40(73)	–				15(27)	40(73)	–
5.	Goa	27(29)	37(40)	1(1)	12(13)	55(59)	3(32)	39(42)	35(38)	1(1)	23(25)	48(52)	1(1)
6.	Madras				96(80)	24(20)	(0)	87(72)	24(20)	10(8)	68(56)	53(44)	(0)
7.	Marathwada	10(50)	9(45)	–	7(35)	13(65)	–	16(80)	4(20)	–	8(40)	11(55)	1(5)
8.	Mysore	37(38)	61(62)	(0)	35(36)	60(61)	2(2)	51(52)	14(42)	4(5)	31(32)	65(67)	3(3)
9.	Jodhpur	79(60)	59(45)	–	72(55)	57(43)	–	99(76)	26(20)	6(4)	59(45)	69(53)	–
10.	Karnatak	174(35)	304(63)	5(1)	192(40)	284(59)	5(1)	284(59)	183(38)	14(3)	198(41)	274(57)	10(2)
11.	Jaipur				75(96)		3(4)	72(92)	3(4)	3(4)	72(92)	3(4)	3(4)
12.	Ranchi	20(76)	6(24)	–	14(52)	12(48)	–	4(15)	22(85)	–	17(64)	9(36)	–
	Total	492(40)	721(59)	13(1)	590(46)	675(52)	22(2)	799(63)	437(34)	38(3)	595(44)	742(55)	21(2)
			1226(100)			1269(100)			1274(100)			1358(100)	

Higher Education is Elitist

"I wish to say specifically and even bluntly that higher education cannot but be elitist or it is not higher education at all. It is not only our economy which has to compete internationally but also our academics. In the interest of fake anti-elitism, we cannot choose to sacrifice those peaks of achievement without which no progress is possible", said Dr.Sarup Singh, Governor of Gujarat, while delivering the Convocation Address at the 27th annual convocation of the Bangalore University. Dr. Singh cautioned the universities against dangers of mediocrity and added, "Where a nation's universities do not maintain higher standards, the nation deteriorates". Excerpts

In earlier times, the aim of University education was to provide knowledge for its own sake and not for any narrow utilitarian purposes. For the fulfilment of these utilitarian purposes, society provided other avenues through professional and trade bodies. The liberal education that a University provided was meant both to **liberate**, i.e., release man's inner potentialities as also to **liberalize** the mind. It was thus both an intellectual and a moral discipline. It aimed at broadening the mind and building up the character of the whole man. The emphasis indeed was on wholesomeness, the culture and refinement of the human individual, the nourishing of the inner resources of a man's self.

The idea of liberal education was essentially a humanistic ideal laying special emphasis on the study of literature, fine arts, philosophy, history, etc. But when sciences invaded universities, the emphasis was somewhat shifted though the ideal was not altogether given up. Sciences too began in the tradition of moral and intellectual discipline but with the passage of time they became a predominantly intellectual discipline. The aim still was – and is – the pursuit of excellence.

But the pursuit of excellence only in terms of the technical aspects of knowledge clearly limits the meaning of excellence. In a country like ours which produced some of the profoundest philosophies explaining the meaning of life, excellence should also include personal integrity, a sense of social responsibility, an alert conscience and intellectual and moral courage.

University education these days has, of course, to equip students for personal careers but it should also inculcate in them these other values and attitudes that I have mentioned. Today professionally and technically many students are better trained but these values and attitudes, I am afraid, have gone into serious decline. In fact, they are often cynically discounted as unprofitable in the market economy.

It is, of course, easy to attribute the prevailing cynicism to the erosion of values in our public life. However correct it may be to hold politicians largely responsible for many of the evils in our society, it should not and does not absolve Universities from playing their own role in national life. Universities have to encourage a value-system several levels above the prevailing attitude and practices. Indeed, they have to represent norms and standards that the surrounding world could emulate. After all, Universities are the only sanctuaries where men and women can cultivate values which can serve to rebuke the increasing all round degradation of our public life.

Pandit Nehru was conscious of these alternative values that Universities have to offer to society. In an address to Allahabad University, he declared : "A vast responsibility....... rests on our Universities and educational institutions and those who guide their destinies. They have to keep their lights burning and must not stray from the right path even when passion convulses the multitude and blinds many amongst those whose duty it is to set an example to others". Nehru's appeal to University- men to keep their lights burning and not to stray from the right path was made in 1947 but it is as relevant today as it was then. But the task of not straying from the right path has become much more difficult today than it ever was. Nehru could appeal to University-men in the name of "value and standards", in the name of "our old culture, our humanism and our spirituality". But today when great confusion is being created about our old culture and some of its important ingredients and features which made it an essentially composite culture are being weeded out, a somewhat disturbing situation is developing. Our spiritual leaders could have helped to create harmony in our society but often they speak in too many different voices and instead of uniting us as human beings often tend to divide us. We as University-men have ourselves to find the answers which our country today badly needs.

But this is not an occassion when I should speak about the country's problems though in a sense we cannot escape speaking about them. I will confine myself as much as I can to University education which in itself is a large enough problem and touches every aspect of our lives. I will begin with a question, a somewhat awkward question perhaps. How is it that when we are studying in foreign countries, we prove to be some of the most outstanding students there but when we return to India, the quality of our performance declines? Is it our climate? Is it that facilities are not as satisfactory here as elsewhere? Facilities are, of course, important and matter a great deal but what matters much more decisively is the human being who makes use of these facilities. There are quite a few institutions in India which do not lack facilities. Indeed, in some places, I am told, even some every expensive and sophisticated equipment ordered from abroad is often not even unpacked for years. The basic question finally is that of our own attitude to work. In other words, we need to ask ourselves : how deep is our commitment as teachers and scholars? One thing is clear to me. Whatever our training and however distinguished our record in India or abroad, the quality of our work is bound to suffer in quality if we are not constantly adding to our knowledge. Once we stop doing so, the decline starts and not only in our capacity for work but also in our intellectual calibre. This is a common phenomenon throughout the underdeveloped countries. Unfortunately this is happening in our country on such a large scale that at times I feel quite depressed. My personal belief is that our capacity for achievement is tremendous : only that often we do not take advantage of talent that God has given us.

Another factor has also contributed to the decline in our standards though we often hesitate to recognise it. Educational expansion during the last four decades in our country has been so rapid and so indiscriminate that often we have had to give academic recognition by way of readerships & professorships even when the individuals were not exactly ready for such recognition or lacked the basic expertise, and sometimes even competence of the required degree. There were jobs to be filled up and often out of sheer necessity, sub-standard people were accommodated. It is not that we were dishonest in our selections but then the posts could not be kept pending for one reason or another and quite often we acted rashly. The people who were selected were probably the best available but what we forgot was that knowledge is universal and that the standards that prevail elsewhere cannot be disregarded except at our peril. To have done so has brought us to a situation where we have a large number of persons in our profession who have been over-assessed and over rated. What is now more worrisome, they now sit in judgment on others who compete for new jobs. Since their own selection was not rigorous in the first instance, they find it difficult to be rigorous now. This in turn has established a cycle of under-performance and every University in our country is suffering from it. I hope you would not mind if I say that your University too may not be wholly free from it.

Academic standards are bound to be adversely affected by the new rules of promotion from one grade to another in most Universities. Some time ago the teaching community successfully launched an agitation against promotion by open competition and won the right of what is for all practical purposes automatic promotion through seniority or passage of time. The effect of this has been wholly negative. When a system ceases to be competitive, decline in the general quality of performance is inevitable. Apart from a few individuals here and there who feel committed to quality for its own sake and who feel the urge to compete in the field of learning at the national or the international level—and the number of such people is necessarily small in almost any society—the majority of teachers feel quite content, to perform their duties in a routine and casual manner. Delhi University's decision to first give automatic promotion to teachers and then to give them the designation of readers has added another dimension to the question. Apparently the Government of India recognises the difficulties ahead and this may be the reason why it moved the University Grants Commission (Amendment) Bill in the Rajya Sabha during the last session.

Even if passed, the Bill is hardly likely to solve the problem. The war cries being raised in the name of University autonomy may sound very pleasing to our ears but the present difficult times demand from all of us a more sober and a more responsible approach. Except for a few selected Departments in certain Universities and research institutes, we are already lagging far behind the advanced countries in most areas of knowledge. Our attempt should be to become internationally competitive. This would demand hard and dedicated work and that is precisely what is at stake. Teachers, like others, can hardly afford to ignore this call of our times.

In the sixties, when the Universities in the West were under attack, certain Universities tried quite successfully the experiment of creating joint councils of teachers and students which were free to go into all questions and find answers. Students' assessment of teachers was also introduced in many Universities at that time and it was noticed that when the assessment was published by students in the students' journal, it had quite a sobering effect on the situation. In India too, I am told, a few Colleges have very successfully tried this method. Teachers need not fear that this is an attempt to put students against teachers. We should recognise that students have the right to know what is happening and teachers should not forget that they are answerable to them. I hope no one would mind if I say that teachers, like others, are also answerable to society.

Perhaps the best way to prevent conflicts between students, teachers and University administrators is to reorganise our Universities. We should create more manageable units to ensure more conducive conditions of work and a more congenial and friendly atmosphere. Within its over-all financial control, it should be possible for the University to encourage autonomous functioning of Colleges and Departments. Too much of centralization and bureaucratization in any case does no good to any institution.

Some of the affiliated Colleges almost throughout the country are doing well and they are doing well because they are manned by real professionals who have pride in their profession. Such Colleges need to be encouraged and supported. These are indeed the Colleges which should be given the status of autonomous Colleges and left to themselves to choose how and what they could do best. Except for some Colleges in the South, the idea of autonomous Colleges was largely ignored in most parts of the country. The strongest opponents of the scheme, in Delhi at any rate, were the teachers' organisations. The view indeed seemed to be that no College, whatever the wishes of its own teachers or managment, should be allowed to go its way. Similarly, Departments were denied autonomy. In Delhi University, as Vice-Chancellor, my constant endeavour was to protect the Delhi School of Economics from invasion by other Departments. I am unable to understand why Academic Councils or even Faculties have to approve the syllabus of a Department. Majority of members of these bodies are in any case quite ignorant about the subject and they are hardly in a position to give a helpful advice. The judges in such matters are the teachers of the subject themselves and they should be free to decide what should be taught. They may, of course, invite experts from outside to help them to revise the syllabus.

I hope I do not sound too cynical but my experience has been that instead of pursuing excellence themselves, some people's constant attempt is to ensure that others cannot pursue it. The pretext, of course, is that it is elitist. I wish to say specifically and even bluntly that higher education cannot but be elitist or it is not higher education at all. It is not only our economy which has to compete internationally but also our academics. In the interest of fake anti-elitism, we cannot choose to sacrifice those peaks of achievement without which no progress is possible. Universities especially should beware of the dangers of mediocrity. Where a nation's universities do not maintain higher standards, the nation deteriorates. When badly educated men and women with a low culture and a narrow outlook become the guardians and rulers of the nation, then that nation is in real peril.

Bangalore University Looks Ahead

Extracts from the Speech of the
Vice-Chancellor Prof. K. Hanumanthappa

Bangalore University which came into existence on 10th July 1964 with only 32 Colleges and with a student population of 18,000 including 590 Postgraduate students is now the biggest among 198 Universities in the country with more than 200 affiliated colleges, 34 Postgraduate Departments, more than 2,50,000 students including about 7,000 Postgraduate students. Along with this quantitative growth, the University could also maintain the tempo of progress in priority areas for improving further its academic, teaching and administrative standards.

Under the 8th Plan, U.G.C. has allocated to our University a sum of Rs. 210 lakhs for Higher Education and Rs. 190 lakhs for Technical Education in two phases. Further, it has also sanctioned Rs. 16 lakhs Unassigned Grants for the teachers to attend National and International Seminars/Conferences/Symposia/ Workshops etc. The U.G.C. has also authorised the University to sanction small projects which are below Rs. 25,000 for Science subjects and Rs. 15,000 for Humanities. This will encourage the University Teachers to actively involve themselves in Research activities.

The U.G.C. has also sanctioned Special Assistance under DSA and DRS programmes to the Depts of : (a) Chemistry, (b) Physics, (c) Geology, (d) Sociology, (e) Communication, (f) Psychology, and (g) Zoology. Rs. 15 lakhs have been sanctioned by U.G.C. to start new courses like Applied Geology and Astro-Physics. Rs. 21 lakhs have been given by U.G.C. to start M.Sc., Electronics course from 1992-93.

Department of Tourism and Development, Govt. of India, has come forward to finance the starting of Master of Tourism Administration (MTA) Course, PG Diploma Courses in Tourism Management and 6 Management Development Programmes on the pattern of Open University leading to the award of Diploma in Tourism Management. The University proposes to start M.Sc. (Enviornmental Science) from 1992-93 and the financial assistance required is sought from U.G.C. and the Govt. of Karnataka.

Our Faculty Members are deeply involved in Research activities. There are seventeen ongoing independent projects in Science which are funded by ICMR, CSIR, UGC, DST, DOE, ISRO, HRD etc., and about 21 fresh proposals are under the consideration of the funding agencies. There are about 12 ongoing independent projects under the Faculty of Engineering and 3 proposals have been sent to funding agencies like Ministry of Transport and Communication, Govt. of India, UGC, etc. In Humanities there are about 9 ongoing independent projects which are funded by ICHR, NCERT, UGC, Western Ghat Development Board, etc.

The Human Resource Development Department, Govt. of India, sanctioned Rs. 70 lakhs to the Engineering Departments during 1990-91 for replacement of old equipment in the Engineering Faculty. The Govt. of Karnataka has come in a big way to encourage Computer Science in UVCE and have sanctioned Rs. 70 lakhs for this purpose. Further, the University has approached the Govt. of Japan through Human Resource Development Ministry for a grant of Rs. 14 crores to the Departments of Technology to modernise its laboratories and workshops.

The University has also requested the U.G.C. for development of Sports Activities and requested for sanction of Rs. 2 crores. It is proposed to form 8 lane track, 400 mtrs. run race, Hockey Ground with Synthetic surface, Cricket Ground, Foot Ball Ground in between the 8 lane track in Jnana Bharathi Campus.

Proposals are sent to the U.G.C. to give Rs. 53 lakh grants to start short-term courses in Nehru Studies and Gandhian Studies. The Sunphar Laboratories, Eudonton, Canada, has given a grant of Rs. 1,20,000 towards a project, viz., preparation of Encyclopaedic Computer Database Medical Plants and Chemical analysis for therapeutically active compounds.

In Sports & Games, our students have done exceedingly well during 1991-92. The Bangalore University team in Hockey, Basket Ball (Men), Foot Ball, Tennis, Kho-Kho (Men) have won the prizes in South Zone Inter-University Tournaments. Also the Women Team in Table Tennis have won the prize. The Bangalore University Team have bagged the "Cash Prize" of Rs. 90,000 for their best performance in All India Inter-University Tournaments in Hockey, Basket Ball, Swimming, Tennis etc. organised by the Association of Indian Universities, New Delhi.

Today, the University is conferring degrees on 12,687 students in person and the rest in absentia. 36 M.Phil. students and 66 Ph.D. students are taking their degrees. Out of them 7,454 are men and 5,233 are women. The annual expenditure for the conduct of examinations is of the order of Rs. 250 lakhs as against the revenue of Rs. 150 lakhs resulting in a deficit of about Rs. 100 lakhs. It is proposed to computerise the examination section in order to prevent malpractices and to announce the results on time. It may cost the University about Rs. 80 lakhs.

A number of innovative schemes have been launched during 1991-92 for the allround development of our affiliated colleges. Out of 139 Colleges of Arts, Science and Commerce, the UGC has already recognised 67 Colleges under Section 2(f) and 12(B) of the UGC Act, 1956. The University has recommended 317 UGC teacher fellowships to 54 colleges which would cost about Rs. 26 lakhs to UGC.

At present the University is maintaining 10 hostels for the students of the University which will accommodate about 3000 students. For a students' strength of 6000, hostel accommodation is still inadequate. Recently the Social Welfare Department has come forward to build two hostels for the SC/ST students—one for ladies and another for gents in J.B. Campus. The University also has asked UGC for financial assistance to construct few more hostels for the students.

As a part of our Silver Jubilee Celebration it is proposed to construct a Multipurpose Conventional Education Centre at the Central College premises at a cost of Rs. 4 crores.

CALENDAR OF EVENTS

Proposed Date of the Event	Title	Objective	Name of the Organising Department	Name of the Organising Secretary/ Officer to be Contacted
April 20-21, 1992	54th Session of the Indian Historical Records Commission	Presesntation of papers relating to post 1600 A.D. period of Indian History & discussion on archival policy and preservation of records.	Department of History, Maharshi Dayanand University, Rohtak	Prof. Pardaman Singh, Deptt. of History, Maharshi Dayanand University, Rohtak
June 6-7, 1992	Fifth Annual Conference of All India Association for Educational Research	Theme : Quality Improvement in Educational Research	Department of Education, Shivaji University, Kolhapur	Dr. R.B. Dewasthalee, Head, Department of Education, Shivaji University, Kolhapur-416004
August 11-16, 1992	8th World Congress for Rural Sociology	Theme : Rural Society in the Changing World Order	International Rural Sociology Association, USA	The Pennsylvania State University, 306, Agricultural Administration Buliding, University Park, Pennsylvania - 16802
August 16-19, 1992	55th Annual Meeting of the Rural Sociological Society	Theme : Rurality and the Global Environment	Rural Sociological Society, USA	-do-
August 25-28, 1992	Second Afro-Asian Psychological Congress	Theme : Psychology for Social Development and Human Welfare	The Chinese Psychological Society	Prof. Wang Su, Congress Secretariat, Department of Psychology, Peking University, Beijing-100871
August 26-28, 1992	Second International ISKO Conference on Cognitive Paradigms in Knowledge Organisation	To provide a forum for scholars working in the field of knowledge organisation	Madras Library Association in collaboration with Sarada Ranganathan Endowment for Library Science and University of Madras	Mr. S. N. Kumar Conference Secretariat, 5, Sivaganga Road, Madras-600 034
September 21-23, 1992	Sixth Annual Conference of the Asian Association of Open Universities	Theme : The Role of Open Universities in promoting Education for All	Korean Society for the Study of Distance Education	Dr. In Sung Jung, Secretariat, AAOU 1992 Annual Conference C/O Korea Air and Correspondence University 169, Dongsung-Dong, Chongro-Ku, Seoul 110-791, Korea
October 26-31, 1992	Third IAU Mid-Term Conference to be held at Alexandria, Egypt	Theme:Adaptation of University Management Structures and Strategies for New Requirement	International Association of Universities (IAU), France	Dr Franz Eberhard, Secretary General, International Association of Universities, 1, rue Miollis, 75732 Paris Cedex 15 France
November 9-13, 1992	16th World Conference on Distance Education for the Twenty-First Century	To give a view of the aspects of development in Distance Education in the Twenty-First Century	International Council for Distance Education, in cooperation with Sukhothai Thammathirat Open University (STOU), Thailand	Mr. Bruce Scriven, Program Chair – 16th World Conference of ICDE, Queensland University of Technology, Locked Bag No. 2, Red Hill Queensland 4059, Australia

Seminar on Examination Reforms

As part of Silver Jubilee celebrations of the South Gujarat University, Surat, the Examination Reforms Unit orgnaized a three-day Regional Seminar on Examination Reforms. The seminar was inaugurated by Dr. C. M. Desai, former Principal, Sarvajanik College of Science, Surat. Shri Sahadev Chaudhari, President, Surat District Panchayat, was the chief guest and Sri Manharbhai Vakil, Honorary Secretary of the Sri Bharatiya Vidya Mandal, Kholwad, presided over the function.

The seminar deliberated upon examination reform measures recommended by the University Grants Commission in its Action Plan. The focus of discussion was on measures such as improvement of written/external examination, Question-Bank, Continuous Internal Evaluation, Grading and Semester system. The role of universities in implementing these reforms was also examined. A minimum examination reform programme evolved by the UGC was also discussed. Also the reform measures adopted by the universities in Gujarat, Maharashtra and Goa were analysed.

It was accepted that examination reforms is a challenge in the present context and its success depended on the faith in the system, determination and will to implement the reform measures and commitment on the part of teachers, students and administrators to realise the objectives.

After detailed discussion the following recommendations were made:

(i) Every university should have an Examination Reform Unit and be given a statutory status;

(ii) Orientation programmes be organized for all the teachers regarding the awareness of the examination reforms. The examination reforms component be included in the curriculum of the Academic Staff College programmes;

(iii) Training programmes be organised at the university level for paper setters and examiners;

(iv) The syllabi of every course be prepared in modular form;

(v) Question banks be evolved at the undergraduate level comprising particularly the objective type questions;

(vi) Teachers from different colleges/institutions affiliated to the university be invited to participate in the development of question banks;

(vii) Examination question papers be dominated by objective type testing;

(viii) Internal options with equal weightage be given, overall options be discounted in the papers;

(ix) Continuous internal evaluation be adopted for each and every course;

(x) Due weightage be given to the performance of continuous internal evaluation component in the summative (final) evaluation of the student in each course;

(xi) Attempts be made to give formative feedback from time to time to students regarding their performance in continuous assessment;

(xii) A scientifically designed grading system be uniformly implemented in all the universities;

(xiii) A properly planned semester system be adopted at all possible levels and courses; and

(xiv) Adequate provision be made for financial and infrastructural facilities for the effective implementation of examination reform measures stated herein.

Over 30 teachers from the universities in Gujarat, Maharashtra and Goa attended the seminar.

ISM Convocation

The fourteenth Annual Convocation of the Indian School of Mines, Dhanbad, was held recently. Delivering the convocation address, Prof. C.S.Jha, Vice-Chancellor, Banaras Hindu University, congratulated the awardees while wishing them well to face future challenges as real life problems would be different to those of the classroom.

Talking on the recent success of the Literacy Mission, he said that if a small country like Cuba could convert its population to full literacy, India, with its large army of school children, educated manpower and voluntary agencies could achieve similar success given the political will. In spite of technological advancements, Prof. Jha said India was faced with the problems of unemployment, paucity and illiteracy.

We are still in the development process and we must be cautious about our shortcomings. He said that a major issue which confronted us today was the rapid degradation of our environment. Depletion of the ozone layer, global warmimg and acid precipitation arising out of burning fossil fuels was not the acceptable price to pay for technological progress and human comfort which has created untold suffering. He said that calculations based on the data of 1987 showed that India ranks third in the production of carbon dioxide(1.2%). He complimented the engineers, technologists and applied scientists and asked them to adopt a spirit of adventure and daring as they were the leaders of tomorrow.

Director-in-charge, Prof. A. K. Ghosh, mentioned about the School's role in nation building and its Kaleidoscopic activities which had carved a niche for itself in the Academic arena, both nationally and internationally. He said that during 1990-91, the School graduated 88 B.Techs, 17 M.Sc Techs, 34 M.Techs and 23 Ph.Ds. He said that an experimental Mine-cum-Training Centre was being established under the CIL-ISM Joint Council at No.26, incline of Godhur Colliery,BCCL, which would be a unique national facility. A similar interface with the Oil and Natural Gas Commission was also being forged, he added. New centres in remote sensing, rock excavation engineering and energy system studies would become fully operational during the VIIIth Plan, he said. The School would be entering into closer partnership with National Laboratories and networking with other universities and engineering colleges. He cautioned that although the School enjoyed excellent employment proposals, this may not be so in the future in a changed economic scenario, and that our efforts on placement were being redesigned, if not doubled. It is only through the synergy of our faculty, students and staff and their shared vision and pride in the School that we can look for "diamonds in the sky", he concluded.

The Chairman of the School Shri B.K Rao who was present on the occasion felicitated the recipients of the degrees and medals and wished them well.

Environmental Conservation for Sustainable Development

The Institute of Environmental Sciences of the Chitrakut Gramoday Vishwavidyalay (Deemed University) proposes to organise a national conference on Envrionmental Conservation for Sustainable Development of the rural areas of Bundelkhand Region on April 22- 23, 1992. The main objectives and themes are: (i) Science and Spiritualism should go together for sustainable development of the region; (ii) To make the village people self-reliant; (iii) Awakening on Environmental Hygiene; (iv) Low cost housing; (v) Herbal medicine; (vi) Non-conventional source of energy suitable for the region; (vii) Establishment of Science and Technology museum; (viii) Small scale industries development, suitable for the region based on local resources; (ix) Water conservation; and (x) Wasteland development and forest conservation.

Further details may be obtained from Dr. Pramod Singh, Head, Institute of Environmental Sciences, Chitrakut Gramoday Vishwavidyalay, Chitrakut, Distt. Satna (M.P.) 210204.

Consultation on Girls' Education

The Government of India is reported to have nominated the National Council of Educational Research and Training (NCERT) as the nodal point for the education of girls which is being neglected due to ignorance, poverty and preference to male child in India. Keeping this objective in mind, the NCERT organised a two-day consultative meeting which was attended by some top experts in the field including senior representatives from the Ministry of Human Resource Development.

The meeeting urged the States to develop a programme of action for educating girl children and this would be a sustained effort as the SAARC decade for the girl child stretches from 1991-2000. Interestingly, the SAARC has defined the girl child between the age group of zero to twenty.

From the Indian point of view, the priority zones include Arunachal, Andhra Pradesh, Madhya Pradesh, Bihar, Assam, Uttar Pradesh, Orissa, Rajasthan, Jammu and Kashmir and West Bengal. In these States, the girl child has been neglected badly from the viewpoint of education.

The meeting assumed significance as representatives from various international organisations took part in the deliberations which would probably deal with the vital aspect of funding.

Rs. 1,000 crore for Computer Education

The committee on computer education has recommended that Rs. 1,000 crore be spent over three years for setting up five new advanced information systems on the pattern of IITs, upgrading the existing main centres and providing minimum computer facilities in about 100 universities and other institutions.

The committee was set up three

months ago to suggest the measures to augment computer education and training in the country.

Stating that the investment of Rs. 1,000 crore should be recovered from the beneficiaries over five years, it has suggested that tax benefits could be granted to encourage private investments in computer facilities.

It feels that there is a need for setting up an autonomous apex body to set guidelines for the growth of computer manpower development.

Recommending that all formal computer education facilities be under the purview of the Human Resource Development Ministry, it suggests that private institutions, with local or NRI participation, should be encouraged.

ICMR Awards Announced

Thirty biomedical scientists have been selected by the Indian Council of Medical Research to receive various awards for 1991 for outstanding research.

Dr. Vinodini Reddy of National Institute of Nutrition, Hyderabad, has been selected to receive Basanti Devi Amir Chand Prize for 1991 for her work in the area of human nutrition. Dr.(Mrs) P. Bhaskaram, also of NIN, has been awarded Dr. Kamala Menon Medical Research Award for Pediatrics for her work on Nutritional Immunology. The third scientist from Hyderabad who received the Amrut Mody Unichem Prize for work done in gastroenterology is Dr C.M. Habibullah of Osmania General Hospital.

Dr. S.Radhakrishna of IRMS, Madras, and Dr. P.S.S. Sunder Rao of Chiristian Medical College, Vellore, have shared Dr. P.N. Rjau Oration Award for doing work on bio-medical statistics. Dr. V. K. Vijayan, Tuberculosis Research, Madras, will receive Prof. B.K. Aikat Oration Award in the area of tobacco-induced oral cancer. The Sandoz Oration Award has gone to Dr. (Mrs) Dhananjaya Saranath of Cancer Research Institute, Bombay. Dr. Lina P. Deodhar of Lokmanya Tilak Municipal Medical College, Bombay, has received Dr. Y.S. Narayana Rao Oration Award. Kshanika Oration Award for work done on interrelationship of urinary trace-stone Fluorosis and Goitre has been given to Dr. (Mrs.) M. Teotia of LLRM College, Meerut.

Dr. B.K. Girdhar and Dr. K. Venkatesan, both of central JALMA Institute of Leprosy, Agra have been awarded JALMA Trust Fund Oration Award and Dr. C.G.S. Iyer Oration Award respectively.

Dr. R.S. Balgir of RMRC, Bhubaneshwar, a field station at VSS Medical College Hospital, Burla, has been given ICMR Prize for bio-medical research in underdeveloped areas.

Dr. C.P. Puri and Dr. A.H. Bandivadkar, both of Institute for Research in Reproduction, Bombay, have been awarded Smt. Swaran Kanta Dingley Oration Award and Tilak Venkoba Award respectively.

Dr. N.L. Kalra, Consultant, NMEP, Malaria Research Centre Delhi, has been given Dr. M.O. T. Iyengar Memorial Award for studies on Vector-borne Parasitic Diseases.

Dr. Vidya Sagar Award has been given to Dr. R. Srinivasa Murthy of NIMHANS, Bangalore. The Amrut Mody Unichem Prize for work done in the field of maternal and child health has been given to Dr. V.P. Reddiah of AIIMS, New Delhi. Dr. R.L. Mittal of Government Medical College and Rajindra Hospital, Patiala, has been given Smt. Pushpa Sriramachari Award for work done on skeletal fluorosis.

Dr. Prem Nath Wahi Award in the field of Cytology and Preventive Oncology has been given to Dr. Usha K. Luthra of ICMR.

Shakuntala Amir Chand Prizes have been given to Dr. Surender K. Sharma of AIIMS, New Delhi, Dr. K.P. Mohankumar of Indian Institute of Chemical Biology, Calcutta, jointly to Dr. Ritu Dhawan and Dr. Madhu Khanna of K.G. Medical College, Lucknow, and to Dr. Jaideep Dogra of Shanti Kutir, Bikaner.

Dr. Radhakrishana Pillai of Regional Cancer Centre, Thiruvananthapuram, has been given Raja Ravi Sher Singh of Kalsia Memorial Cancer Award. Dr. T. Ramachandra Rao Award has been given to Dr. A.P. Dash of Regional Medical Research Centre, Bhubaneshwar. Dr. S. Dasarathy of AIIMS has received Dr. Dharamvir Dutta Memorial Oration Award for work done on treatment of portal hypertension. Dr. Amit Krishna De of University College of Science, Calcutta, has been given Smt. Kamal Satbir Award.

Dr. S.K. Sarkar of NICED, Calcutta, has received Maj. Gen. Saheb Singh Sokhey Award for work done on epidemic of AIDS among drug addicts' of a north-eastern State. Dr. H.B. Dingley Memorial Award for work done relating to childhood encephalopathies has been given to Dr. (Mrs.) Rashmi Kumar of K.G. Medical College.

Summer School on Astronomy & Astrophysics

A Summer School on Astronomy and Astrophysics is proposed to be organised at Pune from 4-27 June, 1992. Funded by the Department of Science & Technology, New Delhi, and hosted by the Inter-University Centre for Astronomy and Astrophysics (IUCAA) and National Centre for Radio Astrophysics (NCRA), Tata Institute of Fundamental Research (Pune Campus), the school is designed to introduce students of Physics, Mathematics, Electronics, Engineering, Instrumentation, etc., to the exciting fields of Astronomy and Astrophysics (A & A). No previous knowledge of A & A is necessary, although familiarity with the basic principles of Physics will be required.

The last 30 years, often regarded as the golden age of astrophysics, have seen the discovery of a series of remarkable objects and phenomena in the Universe, such as quasars, giant superclusters and voids, pulsars, molecular clouds, infrared stars and galaxies, X-ray and Y-ray sources, the 3 K cosmic background radiation, etc. These have resulted from very significant advances in observational and instrumental techniques. The challenges posed by these phenomena have led to the development of many fascinating physical concepts and theories involving stellar structure and evolution, physics of ultra dense neutron stars, high energy astrophysics, gravitational collapse and black holes, application of the latest results of particle physics for understanding the very early Universe and so on.

IUCAA has been set up by the UGC for growth of A & A in the universities. To this end, excellent facilities in computing, instrumentation and library are being developed. IUCAA has a very active and intensive visitors programme for facilitating interaction between university scientists and experts from home and abroad.

NCRA (TIFR, Pune Campus) is setting up the world's largest radio telescope, Giant Metrewave Radio Telescope (GMRT), to be completed by 1993-94. It consists of 30 gigantic fully-steerable parabolic dishes, each 45 metres in diameter, spread over a region of about 25 kms. It involves state-of-the-art technology in a number of areas such as antenna systems, low noise receivers, digital electronics, optical fibre communications, control systems, parallel processing computers and image processing. GMRT will be a powerful new tool to investigate the Universe.

Both IUCAA and NCRA run a Graduate School Programme leading to a Ph.D. for which Research Scholars are selected each year.

The lecturers for the school will be drawn from the leading A & A centres in the country so that the students will get an exposure to the work being done in these fields nationally. The Summer School programme will consist of about 50 lectures covering fundamentals of A & A as well as the recent developments in the field. In addition, students will take part in individual projects under suitable guidance. A visit to the site of GMRT, under construction 90 kms north of Pune, will also be arranged.

Those interested in attending the Summer School should send their application before April 10, 1992 to: In-charge, Visitor Programme, Inter-University Centre for Astronomy and Astrophysics, Post Bag 4, Ganeshkhind, Pune 411 007, in the following format : 1. Name 2. Sex 3. Date of Birth 4. Address (present as well as permanent) 5. Qualifications from high school onwards with institution/field of study/subjects/year/class/grade/per -centage of marks obtained 6. A short write up giving motivation for applying for the school 7. Previous summer schools attended, if any 8. Names and addresses of 2 or 3 referees who should be requested by the students to send their confidential assessments/recommendations under a separate cover. Incomplete applications are liable to be rejected.

Students completing their B.Sc. 3rd year, M.Sc. 1st year, or B.E., B.Tech. 3rd year in 1992 are eligible to apply. The selected students will be provided with travel and living expenses as per the UGC norms and accommodation will be arranged in a hostel during the course of this school. They will be informed by the first week of May, 1992.

Study Centre for Minorities

The University Grants Commission, in consonance with the Centre's 15-point welfare programme for minorities, has set up a study centre at the Maulana Azad College in Calcutta to prepare students of minority communities for competitive examinations.

The centre will primarily provide coaching facilities for the joint entrance, and public service commission examinations. Students belonging to such minority communities as Muslims, neo-Buddhists, Sikhs and Anglo-Indians are eligible for admission to the courses.

Workshop on Utilisation of Standards

A two-day QIP Workshop on "Educational Utilisation of Indian Standards" was recently organised at the Rorkee University in collaboration with Bureau of Indian Standards, New Delhi. Inaugurating the workshop Dr. H.C. Visvesvaraya, Vice-Chancellor, laid emphasis on the fact that use of standards meant an orderly development which was of great use to the consumers.

Technical sessions in the field of Mechanical Engineering, Electrical Engineering, Civil Engineering & River Valley Project. (W.R.D.T.C.) were held in respective departments. Shri B.C. Sinha, Director, Standards Promotion Deptt., along with 6 other officers of BIS participated in the deliberations. An Exhibition of Indian Standards was also organised for the benefit of teachers & students on campus.

The recommendations of the

workshop included the proposal that extensive use of standards be made in the design as well as teaching in the classrooms. For use of students, abridged versions of Indian Standards need be prepared in different specialisations. Further, it was recommended that the library of an Institute should have a separate space containing all latest Indian Standards in the areas of interests of the institute & that the library may arrange sale of codes for students & faculty at concessional rates. It was also recommended that the faculty members should send comments on draft standards which need be circulated extensively by BIS.

Avinashilingam Institute Convocation

The Third Convocation of Avinashilingam Institute for Home Science and Higher Education for Women (Deemed University), Coimbatore was presided over by Shri C. Subramaniam, Governor of Maharashtra and Chancellor of the University. In his address, Shri Subramaniam extolled the virtues and greatness of the Founder, the late Dr. T.S. Avinashilingam, who he said personified Dharma in all his actions and was a living source of inspiration for all. He brought out the immense importance of women's education and hoped that all the graduating students would follow the ideals and values given to them in the university.

Dr. N.Mahalingam, who delivered the Convocation Address, stressed that universities such as this, should be the ambassadors of Indian Culture. They should also be agents of wholesome social change and make creative contributions to the development of a new world civilization based on devotion and discipline.

News from Agricultural Universities

HAU Kisan Mela

"In view of the decreasing areas under agriculture and increasing population, agricultural scientists should formulate their research programmes on the basis of the specific problems of the farmers. Before formulation of the research programmes, the area wise problems of the agriculturists must be studied and understood", observe Dr. Balram Jakhar, Union Minister for Agriculture, while addressing a gathering of scientists and farmers after inaugurating the Kisan Mela at the Chaudhary Charan Singh Haryana Agricultural University, Hisar, recently. Emphasising the adoption of diversification in farming, Dr. Jakhar said that traditional crops should be replaced with cash crops like oilseeds and pulses. He further said that horticulture should be promoted in a big way in all those areas where rainfall was distressfully a limiting factor. Equally farm-forestry was another area to whose popularisation scientists should take up in desert areas, he added. Praising the commitment of the agricultural scientists in evolving the improved varieties and related Package of Practices, Dr. Jakhar complimented the extension workers, extension agencies and also the farmers and farm women who, he said, actually perspired with their hard work for increasing productivity and production. He said that it was because of the research support provided by CCS, HAU, Hisar, that the State had become a surplus food producing State.

Dr. A.L. Chaudhry, Vice-Chancellor, in his welcome address highlighted the new measures of extension adopted by the University for the welfare of the farming community of the State. Dr. Chaudhary said that the high yielding varieties evolved by this University were popular not only among the farmers of Haryana but also equally popular among the farmers of Rajasthan, Punjab, Delhi, U.P. and Bihar. To enable this university in meeting the future challenges. Dr. Chaudhry urged Dr. Jakhar to provide infrastructure for opening of centres of excellence in different disciplines.

The main theme of this year's mela was "Diversification in Agriculture and Popularisation of commercial farming". The university scientists showed the visiting farmers the bumper standing rabi crops with the latest technology.

A large number of farmers from adjoining States like Punjab, Rajasthan, Delhi, U.P. and Bihar participated in the mela. Dummy demonstrations were given on the methods of adoption of new technology and sprinkler and drip irrigation. Agro-industrial exhibition was also organised on the occasion where different departments of the university displayed their products.

Farmers purchased quality seeds of kharif crop worth Rs. 1.50 lacs. Free testing of soils and water samples brought by the farmers, farm machinery repairs, crop competition, question-answer session among the participating farmers and the scientists, etc., were the other highlights of the mela.

Wheat Rust Research Station Golden Jubilee

"The Regional Wheat Rust Research Station located at Mahabaleshwar under the Mahatama Phule Agricultural University has played an important role in supplying wheat rust resistant varieties of wheat not only to Maharashtra State but the whole of country" said Shri Ajit Dada Pawar Minister for Agriculture, Horticulture and Energy, Govt. of Maharashtra, in his presidential address on the occasion of Golden Jubilee celebrations of the Station. He added that farming should be considered as profession and planning should be done accordingly. He also stressed the need to obtain more crop yield and for this the farmers should approach the farm University with their problems for solution. He also pointed out that the farm produce in their area needed to be processed in that region by evolving proper industries where the crop was taken. Shri Vilasraoji Patil, Minister for Animal Husbandary, Dairy and Fisheries, who was also present on the occasion inaugurated the agricultural exhibition.

Dr. S.K. Dorge, Vice-Chancellor in his address reviewed the past research work carried out by the station and said that this research station had done very good work in irrigated and dry wheat not only for the Maharashtra State but also for the whole nation. Shri Nana Bhau Embadwar, Vice-President of Maharashtra Council of Agriculture Education & Research (MCAER), Pune, said that green revolution in 1964-65, which could increase substantially foodgrain production of the country was only due to the research work carried out by the university scientists. Shri Vilasraoji Patil opined that the agricultural knowledge did not reach the farmers' doors and fields. For this purpose scientists should evolve an effective machinery for the delivery of technical know-how.

The farmers attending the function visited the various experimental plants of wheat crop. During their visit they were informed how the wheat rust resistant varieties were evolved at this research station.

PAU Plans New Bulletins

To promote the cultivation of export-oriented crops and encourage diversification, Punjab Agricultural University has decided to produce suitable literature for farmers. This was decided at the annual meeting of the Publication Commitee presided over by Dr. K.S. Gill, Vice-Chancellor.

Two new bulletins on basmati rice and another on durum wheat with good export prospects would be brought out immediately. Bulletins on rabbit farming, dairy farming, bee-keeping, mushroom growing and poultry would be bought out during the year.

Dr. K.S. Gill, Vice-Chancellor, said that the monthly magazine, *Changi Kheti*, must reach each and every farmer. He appealed to the Punjab Government to establish rural libraries.

News from UGC

Countrywide Classroom Programme

Between 6th April to 14th April 1992 the following schedule of telecast on higher education through INSAT-1D under the auspices of the University Grants Commission will be observed. The programme is presented in two sets of one hour duration each every day from 1.00 p.m. to 2.00 p.m. and 4.00 p.m. to 5.00 p.m. The programme is available on the TV Network throughout the country.

Ist Transmission

1.00 p.m. to 2.00 p.m.

6.4.92

"Light from Atoms"

"Management-XIII: Parkison's Law and the Peter Principle"

"Saga of Silk-IV: Silk-Haute Couture"

7.4.92

"Reactive Polymers: Uses and Applications"

"Education for Equality-I"

"The Way of Healthy Life"

8.4.92

"Facets of Biotechnology"

"Forts of the Deccan-III: Golconda Fort"

"Blood Clotting: Gift of Nature"

9.4.92

"Electronics-IV: Equivalent Circuit for a Transister"

"Geological Applications of Remote Sensing"

"Sahitya Akademi"

10.4.92

"India in Space: Achievements of Targets"

"Sings & Communication"

"Tackling Malaria in Orissa"

11.4.92

"The Hand that Creates-IV: History of Art-II"

"Odissi: The Art of Expression-III: Pallavi and Moksha"

"The Week Ahead"

12.4.92

No Telecast

13.4.92

"Treasure from Thermal Spring"

"National Income: Concepts and Measurements"

"Intraocular Lens"

14.4.92

"Black Diamond: Buckminsterfullerene"

"Education for Equality-II"

"Siege of Enlgish"

IInd Transmission

4.00 p.m. to 5.00 p.m.

6.4.92

"Angular Momentum-I"

"Management-IX: Humanising Work"

"Indian Agricultural Statistics Research Institute"

7.4.92

"Organic Reaction Mechanisms-III"

"The Dinosaur-I"

8.4.92

"NDT-IV: Radiographic"

"Fragments from the Past: National Archives-II"

"Nerve Transmission"

9.4.92

"Active Devices"

"What is a Rock?"

"Indian Poetics-III:Theory of Rasa"

10.4.92

"4th Video Competition: A Report"

"Butterflies: The Jewel on Wings -- The Life Cycle"

11.4.92

"Camping with Science-I"

"Calcutta Metro-II:Fast forward"

"The Week Ahead"

12.4.92

No Telecast

13.4.92

"Angular Momentum-II: Free Rotation of a Rigid Body"

"Management-X:Management Information Systems"

"Saga of Silk-I: Legends and Development"

14.4.92

"Unusual Oxidation States"

"Note Taking and Note Making'

"The Dinosaur-II"

We Congratulate...

Prof. V.S. Pathak who has been appointed Vice-Chancellor of the Gorakhpur University.

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DECENTRALISATION OF HIGHER EDUCATION SYSTEM

The Association of Indian Universities (AIU) feeling concerned about the need for improving the efficiency of the university system to make it innovative, creative and more responsive to the societal needs organised a National Seminar on "Decentralisation of Higher Education System". Organised on the occasion of the 66th Annual Meeting of the Association at Thiruvananthapuram on 8 October 1991, the seminar was attended by the Member Vice-Chancellors. The following sub themes were debated at length.

1. Decentralisation in the UGC (Regional Offices, State Councils of Higher Education);
2. Decentralisation within the University System;
3. Decentralisation in Academic Management of Universities/Colleges; and
4. Financial Autonomy and Accountability.

Professors A.M. Kusro, V.C. Kulandai Swamy, A. Gnanam, (Mrs.) Rajammal P. Devadas and D.M. Nanjundappa presented lead papers on the main theme and sub-themes.

The publication comprises report of the proceedings including the consensus and summary of discussions and the papers presented at the seminar.

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AIU Library

Established in 1965, the AIU Library has acquired over the years a valuable collection of books and documents on higher education. Among the topics prominently represented are educational sociology, educational planning, educational administration, teaching & teachers' training, examinations, economics of education and country studies. Developing fields of adult education, continuing education and distance education, and educational technology are also well stocked.

The library is particularly strong in its collection of reports whether they are on the setting up of different universities or on the state of higher education. Files of annual reports of different universities are also maintained. Readers are kept informed of the latest acquisitions through our column 'Additions to the AIU Library'.

The library receives about a 100 periodical titles on higher education. All these are indexed regularly and a select list appears every month as 'Current Documentation in Education'. Similarly our column 'Education News Index' reports editorials and articles on higher education published in over 20 newspapers that are received in the library from all over the country.

The library is steadily building up a collection of audio and video cassettes on matters educational and maintains a well appointed Audio-Visual Room equipped with a double deck audio cassette recorder, a VCR and a colour TV monitor, and an overhead projector.

Doctoral Degrees awarded during the preceding month are reported as 'Theses of the Month', while registrations made for such degrees are flashed as 'Research in Progress'. Bibliographies are also compiled and supplied on demand.

Research Scholars and students of education are welcome to use these resources. The Library is open from 9.00 a.m. to 5.30 p.m. Monday through Friday. Access can also be had through inter library loan for which requisition must be made through your Librarian.

THESES OF THE MONTH

A list of Doctoral Theses accepted by Indian Universities

HUMANITIES

Philosophy

1. Venkatesh, S. **Vivekananda Darshana: Ondu adhyayana.** Mysore.

Dr V N Sheshagiri Rao, Reader, Department of Studies in Philosophy, University of Mysore, Manasagangotri, Mysore.

Language & Literature

English

1. Banerjee, Sunita. **Belief and scepticism in Nissim Ezekiel's poetry.** Durgawati. Dr (Smt) S Nair, Principal, Government Arts College, Panagar, Distt Jabalpur.

2. Danalachme, M. **Oriental women in the novels of Pearl S Buck and Kamala Markandaya.** Mother Teresa. Dr Mercy Louis I Royan.

3. Jayasingh, Celestina. **The problems of university women students in learning general English in rural colleges of Kamarajar District.** Mother Teresa. Dr Rosy D-Souza.

4. Kulbhushan. **The fictional art of Raja Rao: A formalistic approach.** Nanak.

5. Narayanan, Kamala. **The fiction and philosophy of Anita Desai.** Nagpur. Prof O P Bhatnagar, Department of English, Vidarbha Mahavidyalaya, Amravati.

6. Sikri, Adarsh. **Quest for identity in Indo-Anglian fiction.** Nanak. Prof Ramesh K Srivastava, Guru Nanak Dev University, Amritsar.

7. Sikri, Bindu. **Uses of defense mechanism in Indo-Anglian fiction.** Nanak. Prof Ramesh K Srivastava, Guru Nanak Dev University, Amritsar.

Russian

1. Gopi, R. **Syntactic patterns in Russian and Malayalam: A contrastive analysis.** Kerala. Dr A P Andrews Kutty, Reader, Department of Linguistics, University of Kerala, Kariavattom.

2. Panikker, Radhadevi. **The evolution of social activity of women in Russian literature.** Kerala. Dr K Govindan Nair, Reader, Department of Russian, University of Kerala, Thiruvananthapuram.

Sanskrit

1. Adhikari, Krishangopal. **The conception of liberation in the Patanjala Yoga system.** Calcutta.

2. Hedge, Sucharita Ganapati. **Sanskrit alankarika's on Kalidasa: A critical study.** Karnatak. Dr D N Shanbhag, Prof and Chairman, Post Graduate Department of Studies in Sanskrit, Karnatak University, Dharwad.

3. Misra, Niranjan. **The Dharmasastra nibandha writers of Orissa: A critical evaluation.** Calcutta.

4. Sharma, Anjana. **Sanskrit kavyasastra mein nirupit Bhattanayaka ke kavya siddhanton ka sameekshatmak adhyayan.** Delhi.

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6. Sinha Ray, Minakshi. **Rudradhara, a famous Maithila writer on Dharmasastras: His life and works.** Calcutta.

Punjabi

1. Anup Singh. **Pragativadi Punjabi naval vich jamati chetana.** Nanak.

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Hindi

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2. Des Raj. **Panjab's contribution to modern Hindi poetry.** Nanak.

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6. Kaloudius, Pramkali. **Sagar Jile kee adhunik sahityik parampara ka anusheelan.** H S Gour. Prof Balbhadra Tiwari, Department of Hindi, Dr Hari Singh Gour Vishwavidyalaya, Sagar.

7. Nishad, Shankar. **Sur sahitya ka uktivaichitya mulak adhyayan.** Ravishankar. Dr S J Kekre, Prof, Department of Hindi, Govt Girls College, Durg.

8. Pareek, Indu Bala. **Naya Hindi natak: Samvedana aur rangshilp.** Banasthali.

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12. Shrivastava, Jyoti Bala. **Hindi ke anchlik upanyason mein nari patra.** Ravishankar. Dr (Kum) Geeta Pathak, Department of Hindi, Govt Digvijay College, Rajnandgaon.

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4. Sahastrabuddhe, Suneeta Sharadrao. **Marathi natakanteel samvad: Badalte rooprang.** Nagpur. Dr Madan Kulkarni, Post Graduate Department of Marathi, Shri Bejhani City College, Nagpur.

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Arabic

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1. Kamali, T. **Women prisoners in Tamil Nadu.** Mother Teresa. Dr V P Devadatta, Prof and Head, Department of Tamil, Mother Teresa Women's University, Madras.

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9. Pandey, Upama. **Mahakaushal mein swatantrata andolan: Pt Dwarka Prasad Mishra ke vishesh sandarbh mein 1920-1947.** H S Gour. Dr G S Tripathi, 343, Rachna Nagar, Bhopal.

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Minimum Qualification

Professor:- An eminent scholar with published work of high quality actively engaged in research with ten years of experience in Postgraduate teaching and/or research at University/National level Institutions, including experience of guiding research at doctoral level.

OR

An outstanding Scholar with established reputation who has made significant contribution to knowledge.

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Candidates may be requested to appear at an interview as and when called for at the place to be communicated later.

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The applications will be received by the undersigned latest by **15th April 1992**. Application should be accompanied with attested/photo copies of required certificates/mark sheets etc. Incomplete applications will not be entertained. The format of the application form is given below:-

The format of the application form

1. Name
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4. Address
5. Name of the post applied for
6. Educational Qualifications (with the year of passing and percentage of marks/class onward from 10+2 or equivalent)
7. Employment with the name of employers, Remuneration and period.
8. Research experience and list of publications.
9. Any other experience which fits with the requirement of the job.
10. Professional Membership and any other distinction.
11. How do you think you are a fit candidate for a challenging Teaching and Research position at this University?
12. No. and Names of testimonials attached
13. Names and address of the referees who are/were connected with your Academic/Professional work.
14. No., date and place of issue of the Bank Draft.

(Please use additional sheets of paper wherever needed and send copies of one or two Research publications which you consider to be most important).

Signature of the Applicant

Date :
Place :

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REGISTRAR

GURUKULA KANGRI VISHWAVIDYALAYA

HARDWAR

Applications are invited on plain paper in six copies from male candidates with full particulars and attested copies of certificates etc. as well as one passport size photograph for the following posts so as to reach the undersigned on or before **25th APRIL 1992**. A demand draft of Rs 30/- payable at Hardwar in favour of Registrar must be annexed with each application.

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2. Professor : (One) — English
3. Readers : (Three) — One each in Maths, Ancient Indian History Culture and Archaeology, and Linguistics.

Desirable Qualifications

Maths : Knowledge of Ancient Indian Maths.

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Linguistics : a. Knowledge of Etymology and/or Nirukta.

b. Research/experience in the field on comparative literature and/or Linguistic applications through audio-visual media including Language Lab; Computers etc.

c. Experience in the field of Functional Hindi, Linguistics Translation etc.

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Desirable Qualifications

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Note :

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3. Knowledge of Hindi essential.
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Dr. Jai Dev Vedalankar
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GENERAL CONDITIONS: Application on plain paper is to be addressed to the Registrar of the School, giving details of name, address, date of birth, qualifications and experience, accompanied by two copies of recent passport size photograph, attested copies of certificates and testimonials and a demand draft of Rs.3/- (non- refundable) as the application fee (SC/ST candidates are exempted from the payment of the fee) in favour of **"SCHOOL OF PLANNING AND ARCHITECTURE, NEW DELHI" payable at NEW DELHI should reach the Registrar of the School by 20.4.1992.** Applicants who are in the employment of Government/Semi-Government Undertaking/Autonomous Body must send their applications through proper channel. Their pay will be protected as per Government of India Rules. Incomplete applications will not be considered.

School reserves the right to short list candidates for tests/interviews and to accept or reject any application without assigning any reason.

NOTE : If ST candidates are not found suitable, the posts reserved for ST may be filled from among suitable SC candidates and Vice-versa.

JAWAHARLAL NEHRU UNIVERSITY

NEW DELHI

ADVT. NO.A&E-II/3/92

Applications are invited for the following posts :

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RASHTRIYA SANSKRIT VIDYAPEETHA

TIRUPATI - 571 507

(Deemed to be University)

Dt. 10.3.1992

NOTIFICATION

In continuation of Notification dated 13th February 1992 inviting applications for some Teaching Posts, applications are hereby invited for the likely consequential Vacancies also. The latest position of available vacancies under Teaching Staff including consequential vacancies and those already advertised is as follows:

	SUBJECT	PROFESSOR	READER	LECTURER
1.	Navya Nyaya	1	1*	1*
2.	Advaita Vendata	1	1	1*
3.	Sahitya	—	1	1*
4.	Jyothisha	—	—	1
5.	Pedagogy (Shiksha-Shastra)	—	1	1*

* Likely consequential vacancies.

There is no change in the vacancies under Non-Teaching Staff and other conditions.

QUALIFICATIONS AND SCALES OF PAY : As per U.G.C. rules.

The application form etc can be had from the under signed by sending a self-addressed envelope 26 x 11 cm, with stamps worth Rs.2/-.

Last date for receipt of filled-in applications by undersigned is 5.00 p.m. on **15th April, 1992.**

K. Ramachandra Rao
REGISTRAR

Laboratory/Diploma in Electronics with three years experience.

(2) TECHNICAL ASSISTANT in the Centre for Biotechnology – one (reserved for SC) EQ: B.Sc. (Physics) with one year experience in any science laboratory or Higher Secondary (Science) with five years experience as Laboratory Assistant in a Science Laboratory.

(3) TECHNICAL ASSISTANT (Registrar's Office) – one (reserved for SC) EQ: (a) Graduate in Science/Arts/Commerce with 50% marks in aggregate; (b) Two or three years experience of working on Personal Computer; (c) Knowledge of Wordstar, dBase III or Higher version and MS-DOS.

(4) CARTOGRAPHIC ASSISTANT in School of International Studies (reserved for ST) EQ: (a) Master's degree in Geography with good percentage and Diploma in Cartography; (b) Ability to plan and draw maps, illustrations and help the students in planning and making of maps; (c) Some experience in drawing maps and computing the data necessary for maps.

(5) JUNIOR OPERATOR (Computer Centre) – one. EQ: (a) B.Sc. (b) Adequate familiarity with the operation of Hardware such as Disk/tape drives, line printers, plotters etc. Note: The selected candidates may be required to work in any shift as assigned.

SCALE OF PAY : for post no.(1) : Rs.1640-2900; For post nos (2); (3); (4) & (5): Rs.1400-2300.

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Application forms may be obtained free of cost in person or by sending a self-addressed envelope (23cmx10cm) duly stamped of the value of Re.1/- to the Deputy Registrar (Acad. & Estt.II), Room No.131, Administrative Block (New Campus), Jawaharlal Nehru University, New Delhi -110 067. The applications in the prescribed form complete in all respect duly forwarded by the competent authority (for those in service) should reach this University latest by **20.4.1992**.

Abbreviations:

EQ : Essential Qualifications
DQ : Desirable Qualifications

POSTGRADUATE INSTITUTE OF MEDICAL EDUCATION & RESEARCH, CHANDIGARH

ADMISSION NOTICE NO.23/92 (ACAD.)

Applications, on prescribed form, are invited for the following postgraduate courses etc. for the academic session starting from **1st July, 1992**:-

CLOSING DATE FOR RECEIPT OF APPLICATIONS IS 22ND APRIL, 1992

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b) **Junior Demonstrators** (Para Clinical Group)-13

Microbiology-5, Pathology-4, Pharmacology-4.

i) Those completing their internship after 30.6.1992 are not eligible.

ii) For clinical group candidates can apply for a maximum of two subjects only.

iii) Only one application needs to be submitted. The choice of subjects may be indicated in the relevant column of the application. Application fee is Rs.60/- per subject.

iv) 22 $\frac{1}{2}$% of the seats in each of the above mentioned groups are reserved for candidates belonging to Scheduled Castes/Tribes. In addition, 5% seats are reserved for candidates who have rendered or have carried on private practice in rural areas for a maximum period of two years. Details of reserved seats available in the brochure of information.

v) A limited number of sponsored/deputed candidates may also be accepted for M.D./M.S. courses in the subjects mentioned above as also for M.D. (Radio-therapy) courses.

II) First Year Junior Residents for M.D.S. course in the speciality of Pedodontia and preventive Dentistry-3.

III) Diploma Course in Immunohaematology and Blood Transfusin.

IV) M.Sc. Medical Technology (Pathology) with Cytology or Immunopathology as a special subject.

VI) M.Sc. Medical Technology (Biochemistry).

VII) M.Sc. Medical Technology (Pharmacology & Physiology).

VIII) M.Sc. Medical Technology Radiology with Radio-Diagnosis or Radio-Therapy as a special subject.

IX) First Year Junior Residents (House job) for Dentistry-4, One seat reserved for candidates belonging to Scheduled Castes/Tribes.

GENERAL INFORMATION

1. For all courses, where MBBS/BDS is an eligibility requirement candidates, who have made more than one attempt (i.e. have more than one failure, compartment or re-appear) during their MBBS/BDS course are not eligible. However, those belonging to Scheduled Castes/Tribes with upto two attempt in their MBBS/BDS career will be eligible.
2. Those applying for the reserved seats must append, with their application a certificate from the competent authority, indicated in the brochure of information, in support of their claim. No other certificate will be entertained.
3. Four courses at categories III to VIII above, only sponsored /deputed candidates will be considered.
4. The number of seats wherever indicated is provisional and is subject to change without prior notice.
5. The application must be accompanied with non refundable fee of Rs.60/- in the form of postal order/bank draft drawn in favour of the Director for each of the courses mentioned above. A candidate applying for more than one subject/course is required to submit separate application, complete in all respects for each subject/course, except for category No.1.
6. Application form alongwith brochure of information are available from the office of the undersigned either personally on payment of Rs.20/- at the counter from 10.30 AM to 11.30 AM on all working days and from 2.30 P.M. to 3.30 P.M. on all working days (except Saturdays) or by post for which the request must be accompanied with a self addressed envelope size (23x10 cms.) bearing postage stamps of Rs.4.50 and crossed postal order for Rs.20/- drawn in favour of the Director.

O.P. Sharda
REGISTRAR

गुजरात विद्यापीठ

श्रमनिष्ठ जीवन के साथ समाजसेवा प्रशिक्षण के अभ्यासक्रमों में 1992-93 के प्रवेश की विधि

(क) (1) **पारंगत (एम॰ ए॰):**

1.1 गुजराती (भाषाशास्त्र के साथ), 1.2 हिन्दी (प्रयोजन मूलक सह), 1.3 इतिहास और संस्कृति तथा दफ्तर विधा (आकार्यव्ज), बौद्धदर्शन, 1.4 समाजमानवशास्त्र (सोश्यल एन्थ्रोपोलोजी) तथा समाजनवरचना, 1.5 ग्रामअर्थशास्त्र (रूरल इकोनोमिक्स), 1.6 गांधीविचार (पूर्णकालीन अभ्यास), 1.7 शान्ति संशोधन (पूर्णकालीन अभ्यास), 1.8 प्रौढ शिक्षण और बस्ती शिक्षण, दो वर्ष पूर्ण समय, तथा तीन वर्ष स्वाध्याय पद्धति के वर्ग, 1.9 पत्रकारत्व (पूर्णसमय), 1.10 जिनकी मातृभाषा तमिल, कन्नड, मलयालम, बंगाली, मराठी, तेलुगु हो, उनके लिए उनकी मातृभाषा के भाषा-साहित्य में पारंगत (एम॰ ए॰) के लिए रविवारीय वर्गों का त्रिवर्षीय पाठ्यक्रम, 1.11 शिक्षण पारंगत (एम० एड०) के लिए एक वर्ष का पूर्ण समय का और दो वर्ष का आंशिक अभ्यासक्रम।

(2) **समाजकार्य पारंगत (ग्रामलक्ष्मी):** का दो वर्ष का पूर्ण समय का अनुस्नातक अभ्यासक्रम, प्रवेश के लिए स्नातक अथवा उसके समकक्ष विषय की उपाधि, 50 प्रतिशत अंकों के साथ, द्वितीय वर्ग होना आवश्यक है। समाजकार्य अभ्यासक्रम में छात्रावास जीवन जरूरी है। इसे शिक्षण का अंतर्गत भाग मानकर मूल्यांकन किया जायेगा। ग्राम्य विस्तारों की आवश्यकताओं को प्रधान्य देने की दृष्टि से बनाये हुए इस अभ्यासक्रम में ग्रामविस्तार के रचनात्मक कार्यों का अनुभव विशेष योग्यता मानी जायेगी। (बी० ए० या बीएस० सी० पदवी के समकक्ष पदवियों में द्वितीय वर्ग में उत्तीण प्रवेश-पात्र गिने जायेंगे।

(3) **ग्रंथालय विज्ञान विशारद (बी॰ लिब॰) :** एक वर्ष का पूर्ण समय का अभ्यासक्रम (ग्रंथालय विज्ञान पारंगत एम॰ लिब॰) के लिए दो वर्ष के साप्ताहिक वर्ग (बी॰ लिब॰) के लिए बी॰ ए॰ या समकक्ष उपाधि में 50 प्रतिशत अंक प्राप्त करने वालों के लिए और (एम॰ लिब॰) के लिए एम॰ ए॰ और बी॰ लिब॰ में 50 प्रतिशत अंक के साथ उत्तीर्ण हों, उन्हें ही आवेदनपत्र मिलेंगे।

(4) **कम्प्युटर विज्ञान के लिए एक वर्ष का अनुस्नातक अभ्यासक्रम (डी॰सी॰ए॰) :** हिन्दी-गुजराती माध्यम के द्वारा अभ्यास डिप्लोमा बीएस॰ सी॰ या समकक्ष उपाधि में 50 प्रतिशत या उससे ज्यादा अंक प्राप्त करने वालों को आवेदन पत्र दिया जाएगा। ग्रामसेवा की तालीम प्राप्त थोड़े स्नातकों के लिए थोड़ी बैठकें अलग से रखी जायेंगी। बिना गुजराती, हिन्दी में पढ़ सकें इसलिए थोड़ी बैठकें अलग रखी जायेंगी।

(5) **डिप्लोमा और प्रमाणपत्र पाठ्यक्रम:** 5.1 प्रकाशन विज्ञान, पुस्तक या सामाजिक प्रकाशन-व्यवसाय के लिए आवश्यक, एक वर्ष का अनुस्नातक डिप्लोमा।

5.2 भावी समाज (फ्युचर स्टडीजः ग्राम समाज के विज्ञान टेक्नोलोजी के संदर्भ में) एक वर्ष का डिप्लोमा अभ्यासक्रम।

5.3 प्रयोजन मूलक हिन्दीः हिन्दी भाषा में प्रशासन करने वालों के लिए छह महीने का प्रमाणपत्र अभ्यासक्रम।

5.4 तमिल, कन्नड, मलयालम, बंगाली, तेलुगु, मराठी भाषाएं सीखने के प्राथमिक कक्षा के वर्ग।

5.5 रशियन भाषा के लिए एक वर्ष का प्रमाणपत्र अभ्यासक्रम।

5.6 पुरावस्तुविधा (आर्कियोलोजी) और अभिलेखविधा (एविग्राफी) तथा संग्रहस्थानविधा (म्युजियोलोजी) के लिए एक वर्ष का साप्ताहिक वर्गों का डिप्लोमा।

5.7 सुगम संगीत का एक वर्ष का डिप्लोमा।

5.8 सामाजिक जांच-पद्धति के लिए एक वर्ष का साप्ताहिक वर्गों का अनुस्नातक डिप्लोमा।

5.9 एक वर्ष का द्रश्य-श्रव्य (ओडियो विज्युअल) साधन और वीडियो फोटोग्राफी का वीडियो-निर्माण का डिप्लोमा।

(6) **अनुपारंगत (एम॰ फिल॰):** क्रमांक एक में सूचित किये गए विषयों के उपरान्त शांति संशोधन, विज्ञान-अहिंसा और भाविसमाज (फ्युचर स्टडीज़) के अभ्यासक्रम के लिए जिन्होने पारंगत (एम॰ ए॰) अथवा समकक्ष परीक्षा 55 प्रतिशत अंक के साथ द्वितीय वर्ग में पास की होगी, उन्हें ही प्रवेश के लिए योग्य माना जायेगा। अनुपारंगत (एम॰ फिल॰) के अभ्यासक्रम के लिए एक वर्ष, पूर्ण समय के अभ्यास के लिए मासिक रु॰ 800/- की मर्यादित संख्या में, लोन-शिष्यवृत्तियों की सुविधा है। यू.जी.सी. की जूनियर रीसर्च फेलोशिप की कसौटी में पास होने वाले को मर्यादित संख्या में मासिक रु. 1800/- की शिष्यवृत्ति मिलेगी।

(7) **विद्यावाचस्पति (पीएच॰ डी॰) :** दो वर्ष के अभ्यासक्रम के लिए, प्रवेश पाने के लिए, अनुपारंगत की द्वितीय वर्ग की उपाधि 55 प्रतिशत अंक के साथ होनी आवश्यक है।

(8) **विद्यावारिधि (डी॰ लिट॰) :** विद्यावाचस्पति (पीएच॰ डी॰) उपाधि प्राप्त के लिए, विद्यावारिधि की उपाधि का दो वर्ष का अभ्यासक्रम रहेगा। पारंगत (एम॰ ए॰) अथवा अनुपारंगत (एम॰ फिल॰) के स्वाध्याय पद्धति के अभ्यासक्रम में भी समूहजीवन का अभ्यास करवाने के लिए शिविरों तथा प्रवासों का आयोजन किया जाएगा, जिनमें भाग लेना सभी के लिए अनिवार्य होगा। समूहजीवन के बौद्धिक एवं व्यावहारिक कौशल्य का मूल्यांकन हरेक विषय में किया जायगा।

(9) **पत्रव्यवहार द्वारा गांधी विचार पारंगत (एम॰ ए॰) :** गांधीजी के जीवन एवं कार्य के विषय में तथा गांधी विचार के सामाजिक, आर्थिक राजकीय, धार्मिक, आध्यात्मिक एवं शैक्षणिक पहलुओं के बारे में पारंगत (एम॰ ए॰) कक्षा का यह अभ्यासक्रम दो वर्ष का रहेगा। इसमें उन्हें ही प्रवेश मिलेगा जो स्नातक या उसके समकक्ष उपाधि, द्वितीय वर्ग में प्राप्त होगे, जिनको उपाधि प्राप्त न करनी हो उनके लिए केवल एक वर्ष का चार प्रश्न पत्रों का डिप्लोमा कोर्स रहेगा। जो स्नातक न हों, किन्तु 21 से अधिक वर्ष की उम्र के हों वे भी इस डिप्लोमा परीक्षा में बैठ सकते हैं। परन्तु उन्हें केवल डिप्लोमा प्रमाणपत्र मिलेगा।

(10) **पत्रव्यवहार द्वारा शिक्षण पारंगत (एम॰ एड॰) :** इस अभ्यासक्रम का आयोजन प्राथमिक बुनियादी अध्यापन मन्दिरों में अध्यापक के तौर पर काम करने वाले शिक्षकों को ध्यान में रखकर तैयार किया गया है। इसमें बी॰ एड॰ या उसके समकक्ष पदवी द्वितीय वर्ग में प्राप्त छात्र ही आवेदन कर सकते हैं।

(ख) **रांधेजा-सादरा ग्रामसेवा केन्द्र :**

(1) **समाजविद्या विशारद (बेचलर ओफ सोश्यल सायन्सीज) :** श्री महादेव देसाई ग्रामसेवा महाविद्यालय, सादरा (जि॰ अहमदाबाद) तथा रांधेजा (जि॰ गांधीनगर)। महात्मा गांधी के आदर्शों के अनुसार, ग्रामसेवा कार्यक्रमों को तैयार करने के लिए कक्षा 12 के बाद, तीन वर्ष का अभ्यासक्रम, रांधेजा गांव में बहनों के लिए और सादरा गांव में भाईयों के लिए, नए शैक्षणिक प्रथम वर्ष में प्रवेश पाने के लिए जिसने उच्चतर माध्यमिक कक्षा-12 अथवा उसके समकक्ष प्राथमिक अध्यापन मंदिर, व्यायाम, आई॰टी॰आई॰ की चित्र शिक्षक के लिए दसवीं कक्षा के बाद, दो वर्ष की तालीम या प्रि॰युनि॰ की परीक्षा में उत्तीर्ण हों, ऐसे भाई-बहनें प्रवेश पाने के लिए, परीक्षा के परिणाम से पहले भी आवेदन कर सकते हैं। तीसरे साल के दूसरे सत्र में छात्रों को चार महीने के लिए ग्रामविस्तार की संस्था में रहकर उसी विस्तार की समस्याओं को लेकर, प्रत्यक्ष कार्य आधारित तपास निबंध लिखना होगा। छात्रालयजीवन एवं समूहजीवन की तालीम सभी के लिए अनिवार्य रहेंगी। इसका मूल्यांकन भी किया जाएगा और इसके अंक कुल अंकों के साथ जोड़े जाएंगे। गृहविज्ञान विशारद की विज्ञान विद्या शाखा की उपाधि के लिए एच॰ एस॰ सी॰ में विज्ञान एवं गणित के साथ उत्तीर्ण विद्यार्थी आवेदन कर सकेंगे।

(2) **व्यायाम विशारद (बी॰ पी॰ एड॰) :** सादरा में कक्षा-12 परीक्षा में उत्तीर्ण विद्यार्थियों के लिए, यु॰जी॰सी॰ सूचित पूरे तीन वर्ष के खेलकूद की तालीम के साथ (बेचलर ऑफ फिजीकल एज्युकेशन एण्ड हेल्थ) के अभ्यासक्रम में छात्रालयजीवन अनिवार्य रहेगा।

(3) **ग्राम व्यवस्थापन (रूरल मैनेजमेन्ट) का पारंगत (एम॰ आर॰ एम॰) :** कक्षा का दो वर्ष का अभ्यासक्रम, सादरा गांव के पंचायतीराज तालीम केन्द्र में छात्रालयजीवन आवश्यक है। जिन्होंने बी॰ ए॰ की उपाधि, समाजविद्या के किसी भी विषय के साथ द्वितीय वर्ग प्राप्त किया हो वही इसमें प्रवेश प्राप्त कर सकेंगे।

(4) **रांधेजा कन्या ग्रामसेवा महाविद्यालय गृहविज्ञान पारंगत :** (एम॰ ए॰ अथवा एम॰ एससी॰ होमसाइन्स): का पूरे समय का दो वर्ष का अभ्यासक्रमः जिन्होंने स्नातक उपाधि गृह विज्ञान के साथ अथवा अन्य समकक्ष उपाधि प्राप्त की हो, उनके लिए।

उपर्युक्त सभी अभ्यासक्रमों के लिए प्रवेश परीक्षा की जानकारी, आवेदनपत्र के साथ रु. 20/- मनिऑडर से भेजने से मिल सकेंगी। प्रवेश परीक्षा 7 जून को विद्यालय में ली जायगी। सभी कक्षाओं के अभ्यास-काल के दर्मियान प्रमाणित खादी का गणवेश पहनना, प्रार्थना करना, समूह कताई में नियमित भाग लेना और समयानुसार कार्यक्रमों में उपस्थित रहना तथा गांधीविचार की परम्पराओं के अनुसार जीवन-व्यवस्था के सभी कार्यक्रमों में नियमित रूप से वर्ष में कम से कम 200 दिन, उपस्थित रहना अनिवार्य होगा।

विनोद त्रिपाठी

दि. 3-3-1992. **कुलसचिव**

"जनसमूह की निरक्षरता हिन्दुस्तान के लिए पाप है, शर्म है"—**महात्मा गांधी**

आगामी छुट्टियों का सदुपयोग करके हरेक शिक्षित पाँच अनपढ़ लोगों को पढ़ाएं।

THE MAHARAJA SAYAJIRAO UNIVERSITY OF BARODA

NOTIFICATION NO.ADE/7/91-92

Applications are invited for the following posts in prescribed forms which can be obtained from the University Office on or before 10.4.92 by sending a request to the Registrar, M.S. University of Baroda, Vadodara-390 002, along with a self-addressed envelope of size 30 Cms. x 12 Cms. accompanied with a Demand Draft drawn in favour of the Registrar, M.S. University of Baroda of Rs. 50/- (Rs.15/- for members of Scheduled Caste and Scheduled Tribe) or by producing receipt obtained for payment in Cash from Accounts Section of University Office for the same during working days only between 11.00 a.m. and 2.00 p.m. No amount will be accepted either by M.O. or by Postal Order except in cases of SC/ST where they can send Postal Order of Rs.15/- or pay the amount in cash as stated above. The SC/ST applicants will produce a copy of the Certificate to that effect at the time of requesting for application form. The SC/ST candidates coming from outside Gujarat State will also have to produce a Certificate from the competent authority of the Gujarat State mentioning that the Gujarat State has recognised them as SC/ST for the purpose. (The amount of Rs.50/- and Rs.15/- includes the cost of application form and the application fee). The posts are temporary and are likely to be permanent.

UGC Social Science Information Centre (SSIC)

Designation, Grade

1. Deputy Librarian-cum-Coordinator : Rs. 3700-125-4950-150-5700
2. Assistant Librarian : Rs. 2200-75-2800-100-4000
3. System Analyst : Rs. 2200-75-2800-100-4000

The application forms duly completed in all respects along with necessary enclosures should reach the Registrar, M.S. University of Baroda, Vadodara-390 002, on or before **30.4.92.**

Note :

1. The candidates will abide by the rules and regulations of the University. Before filling up the form the candidates are requested to read very carefully the instructions printed on the Application Form attached with the Notification (a copy of which will be supplied along with the Application Form).

   The completed forms will be received during working days upto 30.4.92 as stated above.

QUALIFICATION

I. U.G.C. Social Science Information Centre (SSIC).

1. Deputy Librarian-cum-Coordinator (Rs.3700-5700)

(a) Basic

i) Master's degree in Library Science/Information Science/Documentation with at least fifty five percent marks or its equivalent grade, and a consistently good academic record;

ii) About eight years' experience as an Assistant University Librarian/College Librarian, or equivalent position;

iii) Library knowledge/experience of issues involved in and ability to operationalize, computerized library information systems.

(b) Desirable

i) Evidence of innovative library services, published work and professional commitment;

ii) Experience of handling such computerized information systems as bibliographic records and exchange formats, indexing techniques including use of the saurus, information storage and retrieval techniques, provision of information services, including creation of user interest profiles;

iii) Ability to use database management system, particularly suited to handle textual data;

iv) Familiarity with library oriented packages such as CDS/ISIS, MINISIS, LIBSYS, etc.;

v) Basic degree in the social sciences, or suitable related academic qualifications.

2. Assistant Librarian(Rs.2200-4000)

(a) Basic

i) Qualifying in the national level test conducted for the purpose by the UGC, or any other agency approved by the UGC;

ii) Master's degree in Library Science/Information Science/Documentation or an equivalent professional degree with at least fifty five percent marks or its equivalent grade plus a consistently good academic record;

iii) About 5 years' experience of management of Library services in a University Library/Educational Institution of Higher Learning.

(b) Desirable

i) Evidence of innovative library services, published work and professional commitment;

ii) Experience of handling such computerized information systems as bibliographic records and exchange formats, indexing techniques including use of the saurus, information storage and retrieval techniques, provision of information services, including creation of user interest profiles;

iii) Ability to use database management systems, particularly suited to handle textual data;

iv) Familiarity with library oriented packages such as CDS/ISIS, MINISIS, LIBSYS, etc.;

v) Basic degree in the social sciences, or suitable related academic qualifications.

3. System Analyst (Rs.2200-4000).

(a) Basic

B.Tech (CSE) OR B.Tech. (Non-CSE) with experience in computing OR M.Sc. (Physical Sciences) with 2 years' experience in computing OR M.Sc. (Physical Sciences), DCA with one year experience in computing OR MCA.

Desirable

i) Experience of working with a multiuser and networking operating system; on a mini or mainframe computer system;

ii) Proficiency in developing applications in information retrieval, using Relational Data Base Management Systems.

Please read carefully the instructions printed below :

1. The application should be in the candidate's own handwriting.

2. A candidate who knowingly or willfully furnish incorrect or false particulars or suppresses material information, will be disqualified and if appointed will be liable to dismissal from service.

3. If the space against any item below is insufficient, full particulars should be given on a sheet of paper which should be attached to the application, entering at the appropriate place a reference to the sheet attached.

4. The candidate must possess the required qualifications at the time of last date fixed for receipt of applications by the University.

5. Canvassing direct or indirect will be a disqualification.

6. No application will be considered which is received after the last date of receipt of applications and any kind of fees paid by the applicant is non-refundable and no correspondence in this respect will be entertained.

7. Application on plain paper will not be considered and no correspondence in that respect will be entertained.

8. Reservation of posts is restricted to those who are proclaimed as such and in support of this Certificate of competent authority from the Gujarat State is required to be submitted along with the application. The SC/ST candidates of the State other than Gujarat State shall be considered eligible for recruitment against the reserved seats subject to the condition that they have to produce necessary certificates from the competent authority of Gujarat State.

9. Only ST Candidates need apply for posts reserved of them.

10. Candidates if called for interview will have to come at their own expense.

11. Applicants of the post at Sr.No.1 have to submit their application in SIX COPIES. However, the University will supply only one application form and they are required to send FIVE other Zerox copies of this duly filled in.

12. The University reserves the right to fill or not to fill any post or to alter the number of posts in any cadre or subject.

13. Selected candidates may be posted in any

Institution of the University.

14. Candidates desiring to apply for more than one post must send separate application for each post.

15. The permanent posts carry D.A., H.R.A., C.L.A. and benefit of Pension Scheme and Group Insurance Scheme as per rules.

16. Candidates already in employment in University, Educational Institutions, Government Establishments, Organizations should send their applications through their present employers on or before the prescribed date. However, due to any unavoidable circumstances if the application through proper channel is likely to be delayed then an advance copy must be received in the University Office on or before the due date.

17. Candidates must enclose the attested copies of all MARKSHEETS and passing Certificates of examinations in which he/she passed i.e. Higher Secondary, Bachelor's Degree/Master's Degree/Doctorate etc. In absence of the attested copies of Marksheets, Certificates, etc. application will be considered incomplete and applicants may not be called for interviews.

18. While filling up the details under Item No.11 of the Application form the candidates must state percentage of marks, division/grade and the subjects taken at various examinations, specialization of the subject must be mentioned.

19. A salary certificate showing Pay, D.A. and other allowances being paid by their Institution/Office/Firm should be enclosed with the application form and also be produced at the time of Interview. Whenever higher starting pay is requested, unless an authentic document certificate showing present basic pay and details of all kinds of other allowances are produced, no request for higher starting pay can be entertained. Those candidates who are already in service anywhere shall give proper reasons justifying their demand for a higher starting pay.

20. The applicant should ensure that his application submitted to this University either in person or by sending through post so as to reach to the Registrar, M.S.University of Baroda, Vadodara-390 002, on or before the last date prescribed.

21. If the number of candidates possessing minimum qualifications is large, the University reserves the right to short-list the candidates for the purpose of calling for Interview.

REGISTRAR

ANNA UNIVERSITY

MADRAS 600 025

Advertisement No.6030/L3/92

Dated 14.3.1992

Anna University is seeking applications from distinguished Scientists, Engineers and Technologists for the position of the Director of Alagappa College of Technology who could provide dynamic leadership in guiding the growth of the existing programmes and initiate new programmes of relevance and excellence.

Application form, details of prescribed qualifications and other particulars can be had from the Registrar, Anna University, on requisition along with a Demand Draft for Rs.20/- dated not earlier than 17.3.92 drawn in favour of the Registrar, Anna University, Madras-25, together with a stamped self-addressed envelope (Rs. 3.00) of size 22 x 10 cm.

Position : Director, Alagappa College of Technology, Anna University.

The Academic and Research programme of Alagappa College of Technology has expanded to include Chemical Engineering, Bio-Technology, Ceramic Technology, Crystal Growth, Textile Technology, Leather Technology, Petroleum Refining & Petro-chemicals.

Scale of pay : (i) Rs.4500-150-5700-200-7300 plus special allowance of Rs.400/- in addition to the other allowances admissible.

(ii) Rent free unfurnished quarters will be provided. The Director must live in the campus.

Nature of appointment : On contract for 3 years. Eligible for reappointment for another term.

Qualification & Experience : Doctorate in Engineering or Technology or in any field of studies being offered by the Alagappa College of Technology with a minimum of 10 years' experience as Professor or in an equivalent position in an academic or R & D establishment of Industry. Besides evidence of academic and research excellence, administrative and planning capacities are desirable.

Age : Not below 45 years as on 1st July of the year of recruitment.

Note: In case of persons on deputation, the pay drawn in the department will be protected.

Request for application form, details of qualifications, conditions of service and other particulars will be entertained upto 14.4.92.

Last date for receipt of completed application is **20.4.92.**

REGISTRAR

BANASTHALI VIDYAPITH

(Deemed to be University)

Applications are invited for the following posts :

READERS : Visual Art-1, Education-2, Child Development-1, Foods & Nutrition-1, Clothing & Textile-1.

LECTURERS: English-1, Music-1 (Vocal/Instrumental), Economics-1, Sociology-1, Foundation Courses-2, Mathematics-3, Computer Science-2, Electronics-1, Physics-1, Bio-Science-6, Physical Education-1, Education-2, Child Development-1 (Temp.), Food & Nutrition-1 (Temp.), Clothing & Textile-1 (Temp.), Home Management-1, Programmer Computer Science-1.

Qualifications as recommended by UGC. However, candidates who have not cleared UGC/Equivalent test may also apply for Lecturership but they will have to pass the same before confirmation.

Pay Scales : Reader- 3700-125-4950-150-5700

Lecturer- 2200-75-2800-100-4000 with higher start as recommended by UGC.

Programmer- 2200-75-2800-100-3300.

Dearness Allowance, Contributory Provident Fund, Gratuity, Insurance benefits as per Vidyapith rules.

Separate Qualifications and/or

Specializations :

Lecturer/Programmer Computer Science : I MCA/M.Sc. Comp. Sc./BE Comp. Sc./M.Tech. Comp. Sc. after M.Sc. Physics/Mathematics.

Lecturer Electronics : II M.Sc. Electronics/Applied/Radio Physics and Electronics/I BE Electronics or Electrical communication Engineering or Electrical Engineering. II M.Sc. Physics also eligible if course includes atleast two of (i) Microwaves (ii) Radio and TV (iii) Solid State Devices (iv) Microprocessors.

Lecturer Bio-Science : M.Sc. Zoology/Botany with Specialization : Animal Behaviour (Ethology)/Toxicology & Neurobiology/Immunology/Clinical Pathology/Taxonomy & Ecology/Plant breeding and Horticulture/Microbiology/Biotechnology & Genetic Engineering/Physiology and Biochemistry.

Reader and Lecturer Education : II M.Ed. with II M.A. in Philosophy/Psychology/History/Sociology/English. Desirable M.Ed. Specialization - Advanced Psychology/Educational Technology/Computer Education/ Measurement and Evaluation.

Lecturer Foundation Courses : M.A. Sociology/History. Areas to be taught are Indian Heritage, Women in Indian Society, World Today.

Lecturer Home Science Clothing and Textile : II B.E. (Textile) may also apply.

(1) WORKERS MUST BECOME HABITUAL WEARER OF KHADI ON APPOINTMENT.

(2) Higner start may be considered by the Selection Committee in exceptional cases on merit. (3) Reservation for SC/ST as per rules on the availability of suitable candidates. (4) Vidyapith reserves the right to reduce or increase the number of vacancies or not to fill up any post/s advertised. (5) Rs. 15/- Postal Order (crossed) in favour of Banasthali Vidyapith, to be attached with the application form (Rs. 5/- Postal Order for SC/ST). (6) Vidyapith will contribute travel assistance for one way Second class fare by the shoretest route for appearing at interview. (7) Women preferred.

Note : Candidates who have already applied in response to advertisement 7/91 need not apply again but should indicate continued interest and additional information, if any.

Last date of submission of application : 5 weeks from the date of advertisement.

Application forms can be obtained by sending self-addressed envelope of 16x23 cm. size with Postal Order of Rs. 5/-(Re 1 for SC/ST candidates) and Rs. 10/- if required by registered post to the Secretary, Banasthali Vidyapith, P.O. Banasthali Vidyapith (Rajasthan) 304022. 2/92

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